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OM protein - protein search, using SW model

Run on: May 17, 2005, 14:03:18 ; Search time 170 Seconds
(without alignments)
728.020 Million cell updates/sec

Title: US-09-554-860B-2

Perfect score: 1680

Sequence: 1 MKIVLAIALSLALSAVYARP.....YFAANIDLMWIEPYVVL 320

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database : A_Geneseq_16Dec04:*

1: geneseqp1980s:*\n2: geneseqp1980s:*\n3: geneseqp2000s:*\n4: geneseqp2001s:*\n5: geneseqp2002s:*\n6: geneseqp2003as:*\n7: geneseqp2003bs:*\n8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1676	99.8	320	2	AAV08595 Aay08595 D. pteron
2	1674	99.6	320	2	AAV08593 Aay08593 D. pteron
3	1670	99.4	320	2	AAV08580 Aay08580 D. pteron
4	1670	99.4	320	2	AAV08592 Aay08592 D. pteron
5	1670	99.4	320	6	AB880128 Der p1. 6
6	1670	99.4	320	6	AB880128 Der p1. 6
7	1670	99.4	320	6	AB880128 Der p1. 6
8	1670	99.4	320	7	AD838098 Adb838098 D. pteron
9	1670	99.4	320	7	AD838098 Adb838098 D. pteron
10	1670	99.4	320	8	AD838098 Adb838098 D. pteron
11	1670	99.4	320	8	AD838098 Adb838098 D. pteron
12	1670	99.4	320	8	AD838098 Adb838098 D. pteron
13	1670	99.4	320	8	AD838098 Adb838098 D. pteron
14	1670	99.4	320	8	AD838098 Adb838098 D. pteron
15	1665	99.1	320	6	AB880128 Der p1. 6
16	1658	98.7	320	2	AAV08595 Aay08595 D. pteron
17	1631.5	97.1	315	2	AAV08594 Aay08594 D. pteron
18	1599.5	95.2	343	2	AAV08597 Aay08597 D. pteron
19	1593	94.8	302	6	AB880128 Der p1. 6
20	1593	94.8	302	6	AB880128 Der p1. 6
21	1593	94.8	302	8	AD838098 Adb838098 D. pteron
22	1589	94.6	303	4	AA888344 Aab88344 D. pteron
23	1589	94.6	302	4	AA888344 Aab88344 D. pteron
24	1589	94.6	302	5	AA888344 Aab88344 D. pteron
25	1585	94.3	302	4	AA888344 Aab88344 D. pteron

26	1581	94.1	302	6	AA836748 Aae36748 Dermatoph
27	1581	94.1	302	6	AA836749 Aae36749 Dermatoph
28	1581	94.1	302	6	AA836753 Aae36753 Dermatoph
29	1581	94.1	302	6	AA836752 Aae36752 Dermatoph
30	1581	94.1	302	6	AA836750 Aae36750 Dermatoph
31	1581	94.1	302	6	AA836751 Aae36751 Dermatoph
32	1581	94.1	302	8	AD897695 Adb897695 European
33	1581	94.1	302	8	AD897703 Adb897703 European
34	1581	94.1	302	8	AD897701 Adb897701 European
35	1581	94.1	302	8	AD897699 Adb897699 European
36	1581	94.1	302	8	AD897693 Adb897693 European
37	1581	94.1	302	8	AD897697 Adb897697 European
38	1566	93.2	302	8	AD897737 Adb897737 European
39	1563.5	93.1	339	2	AAV08596 Aay08596 D. pteron
40	1474	87.7	288	8	AD897743 Adb897743 E. maynei
41	1434.5	85.4	321	4	AB880126 Eurm 1. 6
42	1434.5	85.4	321	6	AB880126 Eurm 1. 6
43	1414.5	84.2	321	2	AA878165 Recombina
44	1414.5	84.2	321	2	AA878164 Recombina
45	1414.5	84.2	330	2	AA876479 Recombina

ALIGNMENTS

RESULT 1
ID AAY08595 standard, protein, 320 AA.
XX AAY08595;
AC AAY08595;
XX 05-NUG-1999 (first entry)
DT 05-NUG-1999 (first entry)
XX D. pteronyssinus Derp1 allergen mutant H268A protein.
XX Allergen; Derp1; house dust mite; anti-allergic; immunosuppressive;
XX mast cell degranulation; interleukin-4 synthesis; allergen-specific IgE;
XX Interleukin-4 secretion; allergy; treatment; vaccine; mutant;
XX Th1-type immune response; Derp1-specific IgG.
XX Dermatophagoides pteronyssinus.
OS Synthetic.
OS WO9925823-A2.
XX 27-MAY-1999.
XX 16-NOV-1998; 98WO-EP007521.
XX PF 19-NOV-1997; 97GB-00024531.
XX (SMIT) SMITHKLINE BEECHAM BIOLOGICALS.
XX Bruck C, Bollen A, Jacobs P, Massae M;
XX MPI; 1999-347471/29.
XX N-PSDB; AAV72475.
XX Recombinant mutant Derp1 allergen with reduced enzymatic activity.
XX Claim 14; Page 43-44; 46pp; English.
XX This invention describes novel recombinant mutant allergens derived from
XX the Dermatophagoides pteronyssinus (dust mite) Derp1 allergen which have
XX reduced enzymatic activity compared to the wild-type allergen and are
XX anti-allergic and immunosuppressive. The allergens induce mast cell
XX degranulation to stimulate interleukin-4 synthesis and secretion, even in
XX the absence of allergen-specific IgE. The mutant allergens are useful in
XX manufacture of medicaments for the treatment of allergy. Vaccines
XX comprising the mutant allergens are useful for treatment or prevention of
XX allergic responses, particularly to house dust mite. The mutant allergens
XX increase the Th1-type aspect of immune responses in comparison to those
XX stimulated by the wild-type allergen, leading to the suppression of

CC allergic potential of the vaccinated host. They also have reduced
 CC allergenicity and are hence more suitable for systemic administration at
 CC high doses. The mutant allergens also induce Derp1 specific IgG which
 CC compete with IgE for the binding of native Derp1
 CC
 SQ Sequence 320 AA;

Query Match 99.8%; Score 1676; DB 2; Length 320;
 Best Local Similarity 99.7%; Pred. No. 1.9e-166;
 Matches 319; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MKIVLAIASLALSAVYARPSIKTPEEYKAKFNKSYATFEDBEARKNFLSVKYYQSN 60
 DB 1 MKIVLAIASLALSAVYARPSIKTPEEYKAKFNKSYATFEDBEARKNFLSVKYYQSN 60
 QY 61 GGAINHLSLSDLEDFKRNFLMSAEAFELKTFDINAETNACISNGNAPAEIDLQMRV 120
 DB 61 GGAINHLSLSDLEDFKRNFLMSAEAFELKTFDINAETNACISNGNAPAEIDLQMRV 120
 QY 121 TP1RMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180
 DB 121 TP1RMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180
 QY 181 IOHNGVQESYRYVAREQSCRPNAGRFGISNYCOIYPPNVNKKIREALAQTHSAIAVII 240
 DB 181 IOHNGVQESYRYVAREQSCRPNAGRFGISNYCOIYPPNVNKKIREALAQTHSAIAVII 240
 QY 241 GIKDLDAPFRHYDRTIIQRDNGYQPNYAANVIGYSNAGQVDYWIYRNSWDTNMGDNGYG 300
 DB 241 GIKDLDAPFRHYDRTIIQRDNGYQPNYAANVIGYSNAGQVDYWIYRNSWDTNMGDNGYG 300
 QY 301 YFAANIDLMIMIEEYRYVIL 320
 DB 301 YFAANIDLMIMIEEYRYVIL 320

RESULT 2
 AAY08593
 ID AAY08593 standard; protein; 320 AA.

AC AAY08593;
 DT 05-AUG-1999 (first entry)
 DE D. pteronyssinus Derp1 allergen mutant C132a protein.

KW Allergen; Derp1; house dust mite; anti-allergic; immunosuppressive;
 KW mast cell degranulation; interleukin-4 synthesis; allergen-specific IgE;
 KW interleukin-4 secretion; allergy; treatment; vaccine; mutant;
 KW Th1-type immune response; Derp1-specific IgG.

OS Dermatophagoides pteronyssinus.
 OS Synthetic.

PN WO9925823-A2.

PD 27-MAY-1999.

PF 16-NOV-1998; 98WO-EP007521.

PR 19-NOV-1997; 97GB-00024531.

PA (SMIK) SMITHKLINE BEECHAM BIOLOGICALS.

PI Bruck C, Bollen A, Jacobs P, Masaer M;

DR WPI; 1999-347471/29.

DR N-PSDB; AAV72473.

PT Recombinant mutant Derp1 allergen with reduced enzymatic activity.
 PS Claim 12; Page 39-40; 46pp; English.

CC This invention describes novel recombinant mutant allergens derived from
 CC the Dermatophagoides pteronyssinus (dust mite) Derp1 allergen which have
 CC reduced enzymatic activity compared to the wild-type allergen and are
 CC anti-allergic and immunosuppressive. The allergens induce mast cell
 CC degranulation to stimulate interleukin-4 synthesis and secretion, even in
 CC the absence of allergen-specific IgE. The mutant allergens are useful in
 CC manufacture of medicaments for the treatment of allergy. Vaccines
 CC comprising the mutant allergens are useful for treatment or prevention of
 CC allergic responses, particularly to house dust mite. The mutant allergens
 CC increase the Th1-type aspect of immune responses in comparison to those
 CC stimulated by the wild-type allergen, leading to the suppression of
 CC allergic potential of the vaccinated host. They also have reduced
 CC allergenicity and are hence more suitable for systemic administration at
 CC high doses. The mutant allergens also induce Derp1 specific IgG which
 CC compete with IgE for the binding of native Derp1
 CC
 SQ Sequence 320 AA;

Query Match 99.6%; Score 1674; DB 2; Length 320;
 Best Local Similarity 99.7%; Pred. No. 3.1e-166;
 Matches 319; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MKIVLAIASLALSAVYARPSIKTPEEYKAKFNKSYATFEDBEARKNFLSVKYYQSN 60
 DB 1 MKIVLAIASLALSAVYARPSIKTPEEYKAKFNKSYATFEDBEARKNFLSVKYYQSN 60
 QY 61 GGAINHLSLSDLEDFKRNFLMSAEAFELKTFDINAETNACISNGNAPAEIDLQMRV 120
 DB 61 GGAINHLSLSDLEDFKRNFLMSAEAFELKTFDINAETNACISNGNAPAEIDLQMRV 120
 QY 121 TP1RMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180
 DB 121 TP1RMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180
 QY 181 IOHNGVQESYRYVAREQSCRPNAGRFGISNYCOIYPPNVNKKIREALAQTHSAIAVII 240
 DB 181 IOHNGVQESYRYVAREQSCRPNAGRFGISNYCOIYPPNVNKKIREALAQTHSAIAVII 240
 QY 241 GIKDLDAPFRHYDRTIIQRDNGYQPNYAANVIGYSNAGQVDYWIYRNSWDTNMGDNGYG 300
 DB 241 GIKDLDAPFRHYDRTIIQRDNGYQPNYAANVIGYSNAGQVDYWIYRNSWDTNMGDNGYG 300
 QY 301 YFAANIDLMIMIEEYRYVIL 320
 DB 301 YFAANIDLMIMIEEYRYVIL 320

RESULT 3
 AAY25580
 ID AAY25580 standard; protein; 320 AA.

AC AAY25580;
 DT 30-SEP-1999 (first entry)
 DE D. pteronyssinus allergen Der p 1 protein fragment.

KW Major histocompatibility complex; class II; desensitising; human;
 KW allergen; grass; tree; weed; pollen; mould; food; insect; string;
 KW chironomidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee;
 KW screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat;
 KW cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig;
 KW mice; gerbil; vaccine; prevention; hypersensitivity.

OS Dermatophagoides pteronyssinus.

PN WO9934826-A1.

PD 15-JUL-1999.

PF 11-JAN-1999; 99MO-GB000080.

PR 09-JAN-1998; 98GB-00000445.

PR 21-SEP-1998; 98GB-00020474.
XX (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
XX
PI Larche M, Kay AB;
XX WPI; 1999-458255/38.
XX
PT Desensitizing patients to polypeptide allergens.
XX
PS Example 6; Page 50; 117pp; English.
XX
CC This invention describes a novel method of desensitizing a patient to a
CC polypeptide allergen and comprises administering to the patient a peptide
CC derived from the allergen where restriction to a MHC Class II molecule
CC possessed by the patient can be demonstrated for the peptide and the
CC peptide is able to induce a late phase response in an individual who
CC possesses the MHC Class II molecule. The methods can be used for
CC desensitizing patients to allergens present in e.g. grass, tree and weed
CC (including ragweed) pollens, fungi and moulds, foods, stinging insects,
CC the chironomidae (non-biting midges), spiders and mites, housefly, fruit
CC fly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee,
CC non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of
CC Teniprio mottor beetle, mammals such as cat, dog, horse, cow, pig,
CC sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to
CC produce immunological vaccines which may be used to prevent and/or treat
CC conditions involving hypersensitivity to allergens. This sequence
CC represents the house dust mite (Dermatophagoides pteronyssinus) allergen
CC Der p 1
XX
SQ Sequence 320 AA;
Query Match 99.4%; Score 1670; DB 2; Length 320;
Best Local Similarity 99.4%; Pred. No. 8.2e-166;
Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 MKTIVLAISLALASAVYARPSIKTFEEYKKAFFKNSYATPEDEBARKNFLSEVKYQSN 60
DB 1 MKTIVLAISLALASAVYARPSIKTFEEYKKAFFKNSYATPEDEBARKNFLSEVKYQSN 60
QY 61 GGAINHLSLSDLSDEFKRFMSAEAFELHKTQFDLNAETNACISNGNAPAEIDLQRMRTV 120
DB 61 GGAINHLSLSDLSDEFKRFMSAEAFELHKTQFDLNAETNACISNGNAPAEIDLQRMRTV 120
QY 121 TPIRMGGGCGSAMAFSGVAATESAYLARNQSLDLAEQELVDCAHQHGCHGDTTPRGIEY 180
DB 121 TPIRMGGGCGSAMAFSGVAATESAYLARNQSLDLAEQELVDCAHQHGCHGDTTPRGIEY 180
QY 181 IOHNGVVOESYRYVARQSCRRPNORFGISNYCOIYPPNWKIREALAQTHSATAVIT 240
DB 181 IOHNGVVOESYRYVARQSCRRPNORFGISNYCOIYPPNWKIREALAQTHSATAVIT 240
QY 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGQVDWIYRNSMDTWMGNGYG 300
DB 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGQVDWIYRNSMDTWMGNGYG 300
QY 301 YFAANIDLMMIEEYPPYVIL 320
DB 301 YFAANIDLMMIEEYPPYVIL 320
RESULT 4
AA08592
ID AAY08592 standard; protein; 320 AA.
XX
XX AAY08592;
XX
XX 05-AUG-1999 (first entry)
XX
XX D. pteronyssinus Derp1 allergen protein.
XX
XX Allergen; Derp1; house dust mite; anti-allergic; immunosuppressive;
XX mast cell degranulation; interleukin-4 synthesis; allergen-specific IgE;
KW

KW interleukin-4 secretion; allergy; treatment; vaccine; mutant;
KW Th1-type immune response; Derp1-specific IgG.
XX
OS Dermatophagoides pteronyssinus.
XX
XX WO925823-A2.
XX
XX 27-MAY-1999.
XX
XX 16-NOV-1998; 98WO-EP007521.
XX
XX 19-NOV-1997; 97GB-00024531.
XX
PA (SMIK) SMITHKLINE BEECHAM BIOLOGICALS.
XX
PI Bruck C, Bollen A, Jacobs P, Maasner M;
XX
XX WPI; 1999-347471/29.
XX
XX N-PSDB; AAV72472.
XX
PT Recombinant mutant Derp1 allergen with reduced enzymatic activity.
XX
PS Disclosure; Page; 46pp; English.
XX
XX This invention describes novel recombinant mutant allergens derived from
XX the Dermatophagoides pteronyssinus (dust mite) Derp1 allergen which have
XX reduced enzymatic activity compared to the wild-type allergen and are
XX anti-allergic and immunosuppressive. The allergens induce mast cell
XX degranulation to stimulate interleukin-4 synthesis and secretion, even in
XX the absence of allergen-specific IgE. The mutant allergens are useful in
XX manufacture of medicaments for the treatment of allergy. Vaccines
XX comprising the mutant allergens are useful for treatment or prevention of
XX allergic responses, particularly to house dust mite. The mutant allergens
XX increase the Th1-type aspect of immune responses in comparison to those
XX stimulated by the wild-type allergen, leading to the suppression of
XX allergic potential of the vaccinated host. They also have reduced
XX allergenicity and are hence more suitable for systemic administration at
XX high doses. The mutant allergens also induce Derp1 specific IgG which
XX compete with IgG for the binding of native Derp1. This sequence is not
XX represented in the specification but is the wild-type Derp1 allergen
XX which is used to construct the mutant allergens
XX
SQ Sequence 320 AA;
Query Match 99.4%; Score 1670; DB 2; Length 320;
Best Local Similarity 99.4%; Pred. No. 8.2e-166;
Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 MKTIVLAISLALASAVYARPSIKTFEEYKKAFFKNSYATPEDEBARKNFLSEVKYQSN 60
DB 1 MKTIVLAISLALASAVYARPSIKTFEEYKKAFFKNSYATPEDEBARKNFLSEVKYQSN 60
QY 61 GGAINHLSLSDLSDEFKRFMSAEAFELHKTQFDLNAETNACISNGNAPAEIDLQRMRTV 120
DB 61 GGAINHLSLSDLSDEFKRFMSAEAFELHKTQFDLNAETNACISNGNAPAEIDLQRMRTV 120
QY 121 TPIRMGGGCGSAMAFSGVAATESAYLARNQSLDLAEQELVDCAHQHGCHGDTTPRGIEY 180
DB 121 TPIRMGGGCGSAMAFSGVAATESAYLARNQSLDLAEQELVDCAHQHGCHGDTTPRGIEY 180
QY 181 IOHNGVVOESYRYVARQSCRRPNORFGISNYCOIYPPNWKIREALAQTHSATAVIT 240
DB 181 IOHNGVVOESYRYVARQSCRRPNORFGISNYCOIYPPNWKIREALAQTHSATAVIT 240
QY 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGQVDWIYRNSMDTWMGNGYG 300
DB 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGQVDWIYRNSMDTWMGNGYG 300
QY 301 YFAANIDLMMIEEYPPYVIL 320
DB 301 YFAANIDLMMIEEYPPYVIL 320

XX	RESULT 5
XX	AAB98329
XX	ID AAB98329 standard; protein, 320 AA.
AC	AAB98329;
XX	
D7	21-AUG-2001 (first entry)
XX	
DE	D. pteromyssinus Der p 1 protein pDerp1-320.
XX	
XX	Mite group 1 protein; methyltrophic yeast; Escherichia coli; allergy;
KW	recombinant mite group 1 protein; allergic response; anti-allergic;
KW	infectious disease; allergic disease.
XX	
OS	Dermatophagoides pteromyssinus.
XX	
PN	WO200129078-A2.
PD	
XX	26-APR-2001.
PF	
PE	12-OCT-2000; 2000OWO-US028204.
PR	
XX	15-OCT-1999; 99US-0139841P.
PA	(HESK-) HESKA CORP.
PI	Best EA, McDermott MJ;
DR	WPI; 2001-308475/32.
DR	N-PSDB; AAH22332.
PT	Producing recombinant mite Group 1 protein for treating allergies,
PT	involves culturing a methyltrophic yeast microorganism or Escherichia
PT	coli transformed with nucleic acid molecule, and recovering the protein.
XX	
XX	Claim 12; Page 87-89; 154pp; English.
XX	
CC	The present invention describes a method for the production of a
CC	recombinant mite Group 1 protein (I). The method comprises culturing a
CC	methyltrophic yeast microorganism transformed with a nucleic acid
CC	molecule (II) encoding (I), and recovering (I), or culturing Escherichia
CC	coli transformed with (II) under conditions in which (I) forms an
CC	inclusion body in E. coli, isolating the inclusion body, and recovering
CC	(I). Also described is a method for detecting mite allergy in an animal
CC	comprising: (a) contacting (I) with a putative IGE-containing substance
CC	to form a complex between (I) and IGE; and (b) determining the presence
CC	of IGE reactive with (I) by detecting the complex, where the presence of
CC	reactive IGE is indicative of mite allergy in the animal. (I) is useful
CC	for detecting mite allergy in an animal, or in a composition to reduce
CC	allergic response to a mite Group 1 protein in a mite allergic animal.
CC	(I) is also useful in a composition for treating or preventing allergic,
CC	infectious or other diseases. AAH22326 to AAH22394 and AAB98326 to
CC	AAB98349 represent sequences used in the exemplification of the present
CC	invention
XX	
SQ	Sequence 320 AA;
XX	
Query March	99.4%; Score 1670; DB 4; Length 320;
Best Local Similarity	99.4%; Pred. No. 8.2e-166;
Matches 318; Conservative	0; Mismatches 2; Indels 0; Gaps 0;
OY	1 MKIVLAISLALSAVVARPSSIKTFEEFKKAFNKSVAFTFEDBEAARKNPLESVKYQSN 60
Db	1 MKIVLAISLALSAVVARPSSIKTFEYKKAFNKSVAFTFEDBEAARKNPLESVKYQSN 60
OY	61 GGAINHLSDLSDIDEFRNRFPLMSAEFEHLKTQFDINATNACSINGNAPAETIDLFQMKTV 120
Db	61 GGAINHLSDLSDIDEFRNRFPLMSAEFEHLKTQFDINATNACSINGNAPAETIDLFQMKTV 120
OY	121 TPIRMGGCGGMAASGVAAATESAVLAARNOSLDIABEINDCASOHCHGDTLPRIKEY 180
Db	121 TPIRMGGCGGCMASFSGVAATESAVLAARNOSLDIAEBELVDCAOSHCHGDTLPRIKEY 180

QY	181	IQNNGVQSSYRRYVARBQSCRRPAQRFGLSNYCOLYPPVNTKIRALLQQTSAIAYII	240
Db	181	IQNNGVQSSYRRYVARBQSCRRPAQRFGLSNYCOLYPPVNTKIRALLQQTSAIAYII	240
QY	241	GIQDLAFPHYDGRITIIQRDNGCYQNTAYAVNIIGVYSNAQGVYWIIVNSMDTNMGDNGYG	300
Db	241	GIQDLAFPHYDGRITIIQRDNGCYQNTAYAVNIIGVYSNAQGVYWIIVNSMDTNMGDNGYG	300
QY	301	YFAANTIDLMNIEEYPPVYL	320
Db	301	YFAANTIDLMNIEEYPPVYL	320

RESULT 6	
ABB80128	
ID	ABB80128 standard; protein; 320 AA.
XX	
AC	ABB80128;
XX	
DT	13-JUN-2003 (first entry)
XX	
DE	Der pl.
XX	
KM	Allergen; Blo tl; mite; house dust; allergic asthma; rhinitis;
KM	B. tropicalis hypersensitivity condition.
XX	
OS	Dermatophagoides pteronyssinus.
PN	MO2003016529-AL.
XX	
PD	27-FEB-2003.
XX	
PF	20-AUG-2002; 2002WO-AU001125.
XX	
PR	20-AUG-2001; 2001AU-00007132.
XX	
PA	(CHUA//) CHUA K Y.
PA	(CHRO//) CHEONG N.
PA	(LEEB//) LEE B W.
PI	Chua KY, Cheong N, Lee BW;
XX	
DR	WPI; 2003-278573/27.
DR	N-PSDB; ABQ80213.
PT	New nucleic acid encoding Blomia tropicalis allergen Blo tl, useful for
PT	manufacturing a medicament for preventing, reducing or ameliorating a B.
PT	tropicalis hypersensitivity condition.
XX	
PS	Example 10; Fig 5; 104pp; English.
XX	
CC	The sequences given in ABB80126-28 show dust mite allergens which are
CC	included in the scope of the invention for comparison to the B.
CC	tropicalis allergen Blo tl coding sequence. B. tropicalis mite is the
CC	main component of house dust in tropical and subtropical regions, and is
CC	important for triggering allergic asthma and rhinitis. The B. tropicalis
CC	allergen Blo tl is useful for manufacturing a medicament for preventing,
CC	reducing or ameliorating a B. tropicalis hyper- sensitivity condition
XX	
SQ	Sequence 320 AA;
Query Match	99.4%; Score 1670; DB 6; Length 320;
Best Local Similarity	99.4%; Pred. No. 8.2e-16;
Matches 318; Conservative	0; Mismatches 2; Indels 0; Gaps 0;
QY	1 MKIVLAISLIALSAVYARPSISITFEBYKKAFFNKSIATFEDDEAARKNFLESYKYQSN 60
DB	1 MKIVLAISLIALSAVYARPSISITFEBYKKAFFNKSIATFEDDEAARKNFLESYKYQSN 60
QY	61 GGAINNHLSDSLDFEKNRFLMSARAFELTKQFLNMFVNACISNGNAPATIDLRQKRTV 120
DB	61 GGAINNHLSDSLDFEKNRFLMSARAFELTKQFLNMFVNACISNGNAPATIDLRQKRTV 120

QY 121 TPTRMOGGGSAFSGVAATESAVLAYRNQSLDLAEOLVDCAHQHCHGDTIPGIEY 180
 DB 121 TPTRMOGGGSCAFSGVAATESAVLAYRNQSLDLAEOLVDCAHQHCHGDTIPGIEY 180
 QY 181 IQHNGVVOESYYRYVARBQSCRRPNAQRFGISNYCQIYPPNVKIREBALAQTHSAIAVII 240
 DB 181 IQHNGVVOESYYRYVARBQSCRRPNAQRFGISNYCQIYPPNVKIREBALAQTHSAIAVII 240
 QY 241 GIKDLDAFPHYDRTTIQRDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTWMDNGYG 300
 DB 241 GIKDLDAFPHYDRTTIQRDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTWMDNGYG 300
 QY 301 YFANIDLMWIEEYPYVIL 320
 DB 301 YFANIDLMWIEEYPYVIL 320

RESULT 7
 ABP98482 standard; protein; 320 AA.
 ABP98482;
 11-AUG-2003 (first entry)
 Amino acid sequence of Der p 1 allergen.

DE 11-AUG-2003 (first entry)
 Amino acid sequence of Der p 1 allergen.

XX Der p 1 allergen; transgenic animal; allergen; mammary cell; asthma;
 KW transgenic milk; allergen-induced airway hyperactivity; AHR;
 KW airway inflammation; milk; hyperactivity; immunoglobulin E; IgE;
 KW allergic disorder; rhinitis; sinusitis; hypersensitive pneumonia;
 KW extrinsic allergic alveolitis; conjunctivitis; urticaria; eczema;
 KW dermatitis; anaphylaxis; angioderma; headache; gastrointestinal disorder.

OS Dermatophagoides pteronyssinus.
 PN EP1269837-A2.
 PD 02-JUN-2003.
 PF 17-APR-2002; 2002BP-00252702.
 PR 08-JUN-2001; 2001US-00877160.
 PA (TAIM-) TAIMONT BIOTECH INC.
 PI Ching-Hsueh H, Cheng WTK, Chen C;
 XX WPI; 2003-302677/30.
 DR Novel non-human transgenic mammal useful for the production of transgenic
 PT milk which is useful for treating allergic disorders, the genetic
 PT composition of which comprises nucleic acid and a heterologous promoter.
 XX Disclosure; Page 5; 15pp; English.

PS The present sequence represents a Der p 1 allergen of Dermatophagoides
 XX pteronyssinus. The allergen is expressed in transgenic animals of the
 CC invention. The specification describes a non-human transgenic mammal, the
 CC genetic composition of which comprises a nucleic acid including a coding
 CC sequence that encodes an allergen, and a heterologous promoter operably
 CC linked to the coding sequence, where the heterologous promoter directs
 CC expression of the allergen in a mammary cell of the animal or its female
 CC progeny. Oral feeding with transgenic milk into animals was observed to
 CC suppress the allergen-induced airway hyperactivity (AHR). Milk
 CC compositions, derived from transgenic animals of the invention, are
 CC useful for the preparation of a medicament for treating airway
 CC inflammation and hyperactivity in a human or animal patient and for
 CC decreasing the production of immunoglobulin (Ig) E. The transgenic animal
 CC is useful in the production of transgenic milk that is therapeutically
 CC useful for treating allergic disorders such as rhinitis, sinusitis,
 CC asthma, hypersensitive pneumonia, extrinsic allergic alveolitis,
 CC conjunctivitis, urticaria, eczema, dermatitis, anaphylaxis, angioderma,

CC allergic and migraine headache, and certain gastrointestinal disorders.
 CC It is also useful to propagate the transgene, e.g. to form a herd of
 CC animals. The transgenic milk is useful in primary prevention of infants
 CC who have a high risk of being affected by allergic disorders
 XX Sequence 320 AA;
 SQ Query Match 99.4%; Score 1670; DB 6; Length 320;
 Best Local Similarity 99.4%; Pred. No. 8 2e-166;
 Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKVLAIASLALSAVYARPSIKTEEEKKAFNKSYATFEDEARKNFLESVKYQSN 60
 DB 1 MKVLAIASLALSAVYARPSIKTEEEKKAFNKSYATFEDEARKNFLESVKYQSN 60
 QY 61 GGAINHLSLSDLEFQKRFILMSAEAEHLKTQPDLAETNACISINGNAPAEIDLQWRIV 120
 DB 61 GGAINHLSLSDLEFQKRFILMSAEAEHLKTQPDLAETNACISINGNAPAEIDLQWRIV 120
 QY 121 TPTRMOGGGSAFSGVAATESAVLAYRNQSLDLAEOLVDCAHQHCHGDTIPGIEY 180
 DB 121 TPTRMOGGGSCAFSGVAATESAVLAYRNQSLDLAEOLVDCAHQHCHGDTIPGIEY 180
 QY 181 IQHNGVVOESYYRYVARBQSCRRPNAQRFGISNYCQIYPPNVKIREBALAQTHSAIAVII 240
 DB 181 IQHNGVVOESYYRYVARBQSCRRPNAQRFGISNYCQIYPPNVKIREBALAQTHSAIAVII 240
 QY 241 GIKDLDAFPHYDRTTIQRDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTWMDNGYG 300
 DB 241 GIKDLDAFPHYDRTTIQRDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTWMDNGYG 300
 QY 301 YFANIDLMWIEEYPYVIL 320
 DB 301 YFANIDLMWIEEYPYVIL 320

RESULT 8
 ADC34830 standard; protein; 320 AA.
 ADC34830;
 AC ADC34830;
 XX 18-DEC-2003 (first entry)
 DT House dust mite allergen Der p 1.
 DE House dust mite allergen Der p 1.
 XX house dust mite; allergen; antigen; hyporesponsive; desensitization;
 KW immunomodulator; gene therapy.
 XX Dermatophagoides pteronyssinus.
 OS WO2003047618-A2.
 PN 12-JUN-2003.
 PD 05-DEC-2002; 2002WO-GB005548.
 PF 05-DEC-2001; 2001US-038385P.
 PR (CIRC-) CIRCASSIA LTD.
 PA Larche M, Ledger PW;
 PI WPI; 2003-523267/49.
 DR Desensitizing an individual to a selected polypeptide antigen comprises
 XX administering a composition containing polypeptide antigens in an amount
 PT that generates a state of hyporesponsiveness to the antigen to allow
 PT desensitization.
 XX Disclosure; Page 20; 57pp; English.
 XX The invention relates to a novel method for desensitizing an individual

CC to a selected polypeptide antigen. The method comprises administering a
 CC composition that contains polypeptide antigens in an amount that
 CC generates in the individual a state of hyporesponsiveness to the antigen
 CC to allow desensitization to one or more polypeptide antigens. The method
 CC of the invention has immunomodulator activity, and may have a use in gene
 CC therapy. The composition and method are useful in manufacturing a
 CC medicament for desensitizing an individual to a selected polypeptide
 CC antigen or for generating in the individual a state of hyporesponsiveness
 CC to the antigen to allow desensitization to one or more polypeptide
 CC antigens. The present sequence is used in the exemplification of the
 CC invention.

CC Sequence 320 AA;

Query Match 99.4%; Score 1670; DB 7; Length 320;
 Best Local Similarity 99.4%; Pred. No. 8.2e-166;
 Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKIVLAISLALSAVYARPSIKTFEEYKKAFFNSYATFEDEBAARKNFLESVKYQSN 60
 DB 1 MKIVLAISLALSAVYARPSIKTFEEYKKAFFNSYATFEDEBAARKNFLESVKYQSN 60
 QY 61 GGAINHLSLSDLEFNKRFMSAFAFHLKTPDLNAETNACISNGNAPAEIDLROMRTY 120
 DB 61 GGAINHLSLSDLEFNKRFMSAFAFHLKTPDLNAETNACISNGNAPAEIDLROMRTY 120
 QY 121 TPTRMOGGGCSAMAFSGVATSAVLAAYRNOSDLAEQLVDCASQHGCHGDTIPRGIEY 180
 DB 121 TPTRMOGGGCSAMAFSGVATSAVLAAYRNOSDLAEQLVDCASQHGCHGDTIPRGIEY 180
 QY 181 IQHNGVQESYRYVAREQSCRPNQAFGISNYCOIYPPNVNKKIRALAQTHSAIAVII 240
 DB 181 IQHNGVQESYRYVAREQSCRPNQAFGISNYCOIYPPNVNKKIRALAQTHSAIAVII 240
 QY 241 GIYDLDAFRHYDRTIIQRDNGIQPNYAAVNIYVGSNAGVDYIYRNSWDTNWGDNGYG 300
 DB 241 GIYDLDAFRHYDRTIIQRDNGIQPNYAAVNIYVGSNAGVDYIYRNSWDTNWGDNGYG 300
 QY 301 YFAANIDLMIMEEYPYVIL 320
 DB 301 YFAANIDLMIMEEYPYVIL 320

RESULT 9

ADBS8098
 ID ADBS8098 standard; protein; 320 AA.

AC ADBS8098;

DT 29-JAN-2004 (first entry)

DE European house dust mite Der p 1 allergen protein.

KX transformed lactic acid bacterium; allergen-specific IgE production;

KW Der p 5; allergy; dust mite allergen; dust mite aeroallergen;

KW bronchopulmonary congestion; yoghurt; european house dust mite; Der p 1.

OS Dermatophagoides pteronyssinus.

PN EP1230931-A1.

PD 14-AUG-2002.

PF 06-FEB-2002; 2002EP-00250781.

PR 07-FEB-2001; 2001US-0078672.

PA (GENM-) GENMONT BIOTECHNOLOGY CO.

PI Heu C, Charng Y;

XX WPI, 2003-699059/67.

PT New transformed lactic acid bacteria (e.g. Lactobacillus acidophilus),
 PT useful as oral vaccines for suppressing allergen-specific IgE production
 PT or relieving bronchopulmonary congestion in a subject exposed to a dust
 PT mite allergen.

XX Disclosure; Page 4; 13pp; English.

CC The invention comprises a transformed lactic acid bacterium, which when
 CC ingested in a sufficient amount reduces protein allergen-specific IgE
 CC production in a subject upon subsequent exposure to the protein allergen.
 CC The bacterium contains a nucleotide sequence encoding a protein allergen
 CC (e.g. the Der p 5 dust mite allergen), and a promoter sequence operably
 CC linked to the nucleotide sequence. The bacterium of the invention is
 CC useful in manufacturing a medicament for decreasing/suppressing the
 CC production of IgE in a subject exposed to dust mite allergen or
 CC aeroallergen. The bacterium is also useful in the manufacture of a
 CC medicament for relieving bronchopulmonary congestion in a subject exposed
 CC to a dust mite allergen. The medicament is prepared for oral
 CC administration, preferably as a yoghurt. The present amino acid sequence
 CC represents the european house dust mite (Dermatophagoides pteronyssinus)
 CC Der p 1 protein.

XX Sequence 320 AA;

Query Match 99.4%; Score 1670; DB 7; Length 320;
 Best Local Similarity 99.4%; Pred. No. 8.2e-166;
 Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKIVLAISLALSAVYARPSIKTFEEYKKAFFNSYATFEDEBAARKNFLESVKYQSN 60
 DB 1 MKIVLAISLALSAVYARPSIKTFEEYKKAFFNSYATFEDEBAARKNFLESVKYQSN 60
 QY 61 GGAINHLSLSDLEFNKRFMSAFAFHLKTPDLNAETNACISNGNAPAEIDLROMRTY 120
 DB 61 GGAINHLSLSDLEFNKRFMSAFAFHLKTPDLNAETNACISNGNAPAEIDLROMRTY 120
 QY 121 TPTRMOGGGCSAMAFSGVATSAVLAAYRNOSDLAEQLVDCASQHGCHGDTIPRGIEY 180
 DB 121 TPTRMOGGGCSAMAFSGVATSAVLAAYRNOSDLAEQLVDCASQHGCHGDTIPRGIEY 180
 QY 181 IQHNGVQESYRYVAREQSCRPNQAFGISNYCOIYPPNVNKKIRALAQTHSAIAVII 240
 DB 181 IQHNGVQESYRYVAREQSCRPNQAFGISNYCOIYPPNVNKKIRALAQTHSAIAVII 240
 QY 241 GIYDLDAFRHYDRTIIQRDNGIQPNYAAVNIYVGSNAGVDYIYRNSWDTNWGDNGYG 300
 DB 241 GIYDLDAFRHYDRTIIQRDNGIQPNYAAVNIYVGSNAGVDYIYRNSWDTNWGDNGYG 300
 QY 301 YFAANIDLMIMEEYPYVIL 320
 DB 301 YFAANIDLMIMEEYPYVIL 320

RESULT 10
 ADM57314
 ID ADM57314 standard; protein; 320 AA.

AC ADM57314;

DT 01-JUL-2004 (first entry)

DE Modular antigen transporter molecule protein SEQ ID NO: 20.

KW modular antigen transporter molecule; MAT molecule; immunosuppressive;

KW antiallergic; antirheumatic; virucide; antibacterial; cytostatic;

OS translocation module; targeting module; antigen module.

PN EP1408114-A1.

PD 14-APR-2004.

PF 11-OCT-2002; 2002EP-00022774.
 XX
 PR 11-OCT-2002; 2002EP-00022774.
 XX
 PA (BIOV-) BIOVISION AG.
 XX
 PI Cramer R, Flueckiger S, Lamping N, Daigle I;
 XX WPI; 2004-307083/29.
 DR N-PSDB; ADM57313.
 XX
 PT Modular antigen-transporting molecule, useful for treating, preventing
 PT and diagnosing e.g. autoimmune disease, comprises separate translocation,
 PT targeting and antigen modules.
 XX
 PS Disclosure; Page 52-53; 63pp; German.
 XX
 CC The present invention relates to a modular antigen-transporting molecule
 CC (MAT) comprising one each of a translocation module, a targeting module
 CC and an antigen module. MAT molecules and their coding sequences are used
 CC for imaging, and as pharmaceutical, vaccinating and diagnostic agents,
 CC for preventing, reducing and/or stimulating the immune response, and for
 CC treatment of autoimmune, allergic, rheumatism, organ rejection, infection
 CC (bacterial, viral or caused by eukaryotic pathogens) and/or malignant
 CC disease. The present sequence is a MAT molecule shown in the
 CC exemplification of the invention.
 XX
 SQ Sequence 320 AA;

Query Match 99.4%; Score 1670; DB 8; Length 320;
 Best Local Similarity 99.4%; Pred. No. 8.2e-166;
 Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKVLAIASLALSAVAVAPSSIKTFEEYKKAFFKSKATFEDBEAARKNPLSEYKYQSN 60
 DB 1 MKVLAIASLALSAVAVAPSSIKTFEEYKKAFFKSKATFEDBEAARKNPLSEYKYQSN 60
 QY 61 GGAINHSDLSLDFKRNPFMSAEFHLKTOPPLNLFETNACSTNGAPAEIDLRQRTV 120
 DB 61 GGAINHSDLSLDFKRNPFMSAEFHLKTOPPLNLFETNACSTNGAPAEIDLRQRTV 120
 QY 121 TPIRMGGCGGSAMAFSGVATSTESAYLARNQSLDLAEQLVDCAQCHGCHDTIPRGIEY 180
 DB 121 TPIRMGGCGGSAMAFSGVATSTESAYLARNQSLDLAEQLVDCAQCHGCHDTIPRGIEY 180
 QY 181 IOHNGVQESYRYVAREGSCRRPNAQRFGISNQCQIYPPNVKIRREALAQTHSAIAVIT 240
 DB 181 IOHNGVQESYRYVAREGSCRRPNAQRFGISNQCQIYPPNVKIRREALAQTHSAIAVIT 240
 QY 241 GIDDLAFHYHDDRTTIQRNGVOPNYAAVNYGYSNAQGVVDVYIYNSWDTMGDNGYG 300
 DB 241 GIDDLAFHYHDDRTTIQRNGVOPNYAAVNYGYSNAQGVVDVYIYNSWDTMGDNGYG 300
 QY 301 YFAANIDIMMIEEYPPVITL 320
 DB 301 YFAANIDIMMIEEYPPVITL 320

RESULT 11
 ADQ14389
 ID ADQ14389 standard; protein; 320 AA.
 XX
 AC ADQ14389;
 XX
 DT 07-OCT-2004 (first entry)
 XX
 DE European house dust mite faecal allergen Der p 1.
 XX
 KW Notch signalling; modulator; antigen; antigenic determinant;
 KW immunomodulator; immune disorder; immune response; immune tolerance;
 KW peripheral T-cell activation; regulatory T-cell; T reg; tumour; cancer;
 KW autoimmune disorder; allergy; transplant rejection; immunosuppressive;
 KW cytostatic; antiallergic; vaccine; faecal allergen;

KM European house dust mite; Der p 1.
 XX
 OS Dermatophagoides pteronyssinus.
 XX
 PN WO2004060262-A2.
 XX
 PD 22-JUL-2004.
 XX
 PF 07-JAN-2004; 2004MO-GB000046.
 XX
 XX

PR 07-JAN-2003; 2003GB-0000234.
 PR 23-JAN-2003; 2003GB-00001510.
 PR 23-JAN-2003; 2003GB-00001512.
 PR 23-JAN-2003; 2003GB-00001513.
 PR 23-JAN-2003; 2003GB-00001515.
 PR 23-JAN-2003; 2003GB-00001518.
 PR 23-JAN-2003; 2003GB-00001519.
 PR 23-JAN-2003; 2003GB-00001521.
 PR 23-JAN-2003; 2003GB-00001522.
 PR 23-JAN-2003; 2003GB-00001524.
 PR 23-JAN-2003; 2003GB-00001526.
 PR 23-JAN-2003; 2003GB-00001527.
 PR 23-JAN-2003; 2003GB-00001529.
 PR 23-JAN-2003; 2003GB-00006621.
 PR 04-APR-2003; 2003MO-GB001525.
 PR 24-MAY-2003; 2003GB-00012062.
 PR 01-AUG-2003; 2003MO-GB003285.
 PR 03-OCT-2003; 2003GB-00023130.
 XX
 XX (LORA-) LORANTIS LTD.
 XX
 PI Bodmer MW, Briand ECP, Champion BR, Lennard AC, McKenzie GJ;
 PI Tugal T, Ward GA, Young LB;
 XX
 DR WPI; 2004-534298/51.
 XX

PT New product for modulating the immune system, comprises a pharmaceutical
 PT support matrix bearing modulators of Notch signalling, and an antigen or
 PT antigenic determinant, or a polynucleotide coding for the antigen or
 PT determinant.
 XX
 PS Disclosure; Page 179; 294pp; English.
 XX

CC The invention relates to a product comprising (1) a pharmaceutical
 CC support matrix for in vivo administration bearing modulators of Notch
 CC signalling (especially a Delta or Serrate/Jagged protein or fragment or
 CC homologue thereof); and (2) an antigen or antigenic determinant, or
 CC polynucleotide encoding an antigen or antigenic determinant. The product
 CC acts as a combined preparation for modulation of the immune system or for
 CC modulation of an immune response to the antigen or antigenic determinant.
 CC The invention also relates to a pharmaceutical composition comprising the
 CC product; a particle with a maximum linear dimension of less than 500
 CC (preferably 30-70) nm having several bound modulators of Notch signalling
 CC (a method of modulating Notch signalling; methods of treating an immune
 CC disorder, for reducing an immune response, for promoting immune tolerance
 CC in a mammal, and a method for increasing an immune response to a tumour
 CC or pathogen antigen or its antigenic determinant in a mammal. The
 CC composition and methods are useful for modulating peripheral T-cell
 CC activation, for generating regulatory T-cells (T regs), for reducing an
 CC immune response to an antigen or antigenic determinant, for promoting
 CC immune tolerance to an antigen or antigenic determinant, or for treating
 CC tumours, autoimmune disease, allergies or transplant rejection. The
 CC present sequence represents a house dust mite faecal allergen which may
 CC be used in a product of the invention.
 CC
 XX

SQ Sequence 320 AA;

Query Match 99.4%; Score 1670; DB 8; Length 320;
 Best Local Similarity 99.4%; Pred. No. 8.2e-166;
 Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKVLAIASLALSAVAVAPSSIKTFEEYKKAFFKSKATFEDBEAARKNPLSEYKYQSN 60
 DB 1 MKVLAIASLALSAVAVAPSSIKTFEEYKKAFFKSKATFEDBEAARKNPLSEYKYQSN 60

DB 1 MKTVAIASLALASAVYARPSSTIKTPEEYKKA FNKSYATFEDEBARKNFLSVKXVQSN 60

QY 61 GGAINHLSLSDLSDEFKRNFLMSAPAEHLKTQPDLAETNACISNGNAPAEIDLRQMTY 120

DB 61 GGAINHLSLSDLSDEFKRNFLMSAPAEHLKTQPDLAETNACISNGNAPAEIDLRQMTY 120

QY 121 TPIRMGGGSGSAMAFSGVATSAVLAAYRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180

DB 121 TPIRMGGGSGSAMAFSGVATSAVLAAYRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180

QY 181 IOHNGVQESYRYVAREQSCRRPNACRGISNYCOIYPPNNKIREALAQTHSAIAVII 240

DB 181 IOHNGVQESYRYVAREQSCRRPNACRGISNYCOIYPPNNKIREALAQTHSAIAVII 240

QY 241 GIKDLDAFRHYDRTTIQRDNGYQPNYAANVIGYSNAGVDYWIYRNSWDTNMGDNGYG 300

DB 241 GIKDLDAFRHYDRTTIQRDNGYQPNYAANVIGYSNAGVDYWIYRNSWDTNMGDNGYG 300

QY 301 YFAANTIDMMIEEYPVVIL 320

DB 301 YFAANTIDMMIEEYPVVIL 320

RESULT 12

ADSS2096 standard; protein; 320 AA.

AC ADSS2096;

XX 16-DEC-2004 (first entry)

DE Major mite fecal allergen Der p 1 precursor (Der p I).

XX immune response; allergen; antigenic determinant;

KW Notch signaling pathway; immunosuppressive; antiallergic;

KW Notch receptor modulator; Notch agonist; Notch antagonist;

KW T-lymphocyte modulator; peripheral T-cell activation; immune response;

KW immune tolerance; pollen allergy; mite allergy; cockroach allergy;

KW food allergy; nut allergy; venom allergy; latex allergy;

KW animal dander allergy; drug allergy; insect allergy; Apc; T-cell;

Der p I.

XX Dermatophagoides pteronyssinus.

OS MO2004082710-A1.

PN 30-SEP-2004.

PD 22-MAR-2004; 2004WO-GB001252.

XX 21-MAR-2003; 2003GB-00006582.

PR 21-MAR-2003; 2003GB-00006583.

PR 22-MAR-2003; 2003GB-00006621.

PR 22-MAR-2003; 2003GB-00006622.

PR 22-MAR-2003; 2003GB-00006624.

PR 22-MAR-2003; 2003GB-00006626.

PR 22-MAR-2003; 2003GB-00006640.

PR 22-MAR-2003; 2003GB-00006644.

PR 22-MAR-2003; 2003GB-00006650.

PR 22-MAR-2003; 2003GB-00006651.

PR 22-MAR-2003; 2003GB-00006654.

PR 04-APR-2003; 2003WO-GB001525.

PR 24-MAY-2003; 2003GB-00012062.

PR 01-AUG-2003; 2003WO-GB003285.

PR 03-OCT-2003; 2003GB-00023130.

PR 07-JAN-2004; 2004WO-GB000046.

PR 23-JAN-2004; 2004WO-GB000263.

XX (LORA-) LORANTIS LTD.

PA Bodmer MW, Briend ECP, Champion BR, Lennard AC, McKenzie GU,

PI Ragno S, Tugai T, Ward GA, Young LL,

XX

DR WPI; 2004-699718/68.

XX New product for treating allergic diseases comprises a modulator of the

PT Notch signaling pathway (e.g. Notch ligand), and an allergen or its

PT antigenic determinant, or a polynucleotide coding for an allergen or its

PT antigenic determinant.

XX Disclosure; Page 26; 176pp; English.

PS This invention relates to a novel method for reducing an immune response

XX to an allergen or antigenic determinant thereof in a mammal by

CC administering a modulator of the Notch signaling pathway. The invention

CC may be useful for the development of compounds with an immunosuppressive

CC or antiallergic activity acting as Notch receptor modulators, Notch

CC agonists, Notch antagonists or T-lymphocyte modulators. The invention is

CC useful for modulating peripheral T-cell activation, reducing an immune

CC response or promoting immune tolerance to an allergen or antigenic

CC determinant, or for treating pollen, mite, cockroach, food, nut, venom,

CC latex, animal dander, drug or insect allergy. The product or modulator

CC may also be used in manufacturing a medicament for treating allergy or

CC for reducing an immune response or promoting immune tolerance to an

CC allergen or antigenic determinant. The methods may be used for producing

CC an APC or T-cell capable of promoting tolerance to an allergen. The

CC present sequence is that of the Major mite fecal allergen Der p 1

CC precursor (Der p I) which is related to the invention.

XX Sequence 320 AA:

SO Query Match 99.4%; Score 1670; DB 8; Length 320;

Best Local Similarity 99.4%; Pred. No. 8.2e-166;

Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKTVAIASLALASAVYARPSSTIKTPEEYKKA FNKSYATFEDEBARKNFLSVKXVQSN 60

DB 1 MKTVAIASLALASAVYARPSSTIKTPEEYKKA FNKSYATFEDEBARKNFLSVKXVQSN 60

QY 61 GGAINHLSLSDLSDEFKRNFLMSAPAEHLKTQPDLAETNACISNGNAPAEIDLRQMTY 120

DB 61 GGAINHLSLSDLSDEFKRNFLMSAPAEHLKTQPDLAETNACISNGNAPAEIDLRQMTY 120

QY 121 TPIRMGGGSGSAMAFSGVATSAVLAAYRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180

DB 121 TPIRMGGGSGSAMAFSGVATSAVLAAYRNQSLDLAEQELVDCASQHGCHGDTTPRGIEY 180

QY 181 IOHNGVQESYRYVAREQSCRRPNACRGISNYCOIYPPNNKIREALAQTHSAIAVII 240

DB 181 IOHNGVQESYRYVAREQSCRRPNACRGISNYCOIYPPNNKIREALAQTHSAIAVII 240

QY 241 GIKDLDAFRHYDRTTIQRDNGYQPNYAANVIGYSNAGVDYWIYRNSWDTNMGDNGYG 300

DB 241 GIKDLDAFRHYDRTTIQRDNGYQPNYAANVIGYSNAGVDYWIYRNSWDTNMGDNGYG 300

QY 301 YFAANTIDMMIEEYPVVIL 320

DB 301 YFAANTIDMMIEEYPVVIL 320

RESULT 13

ADSS14367 standard; protein; 320 AA.

ID ADSS14367;

AC ADSS14367;

XX 16-DEC-2004 (first entry)

DT Dust mite allergen Der p 1.

XX Cytostatic; Immunosuppressive; Antidiabetic; Neuroprotective;

KW Antiarthritic; Antirheumatic; Antiallergic; Vaccine; Notch signaling;

KW Notch; Notch ligand; Delta protein; Serate protein; Jagged protein;

KW multiple sclerosis; rheumatoid arthritis; diabetes; allergy;

KW immune disorder; autoimmune disease; graft rejection; cancer;

KW organ transplant; dust mite; allergen; Der p I.


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XX OS Dermotophaeoides pteronyasinus.
XX PN WO2004083372-A2.
XX 30-SEP-2004.
XX 22-MAR-2004; 2004WO-GB001229.
XX
XX 21-MAR-2003; 2003GB-00006582.
XX 21-MAR-2003; 2003GB-00006583.
XX 22-MAR-2003; 2003GB-00006621.
XX 22-MAR-2003; 2003GB-00006622.
XX 22-MAR-2003; 2003GB-00006624.
XX 22-MAR-2003; 2003GB-00006626.
XX 22-MAR-2003; 2003GB-00006640.
XX 22-MAR-2003; 2003GB-00006644.
XX 22-MAR-2003; 2003GB-00006650.
XX 22-MAR-2003; 2003GB-00006651.
XX 22-MAR-2003; 2003GB-00006654.
XX
XX (LORA-) LORANTIS LTD.
XX
XX Champion BR, Ragno S;
XX
XX MPI; 2004-709927/69.
XX GENBANK; P08176.
XX
XX Particle capable of being inserted into or taken up by cell useful for
XX modulating immune response to antigen in subject, comprises
XX polynucleotide coding for modulator of Notch signaling, and
XX polynucleotide coding for antigen.
XX
XX Disclosure; Page 175; 278bp; English.
XX
XX The present invention relates to a particle (I) capable of being inserted
XX into or taken up by a cell comprising (i) a polynucleotide coding for a
XX modulator of Notch signaling, and (ii) a polynucleotide coding for an
XX antigen or antigenic determinant. The first polynucleotide sequence codes
XX for a Notch ligand such as a Delta or Serrate/Jagged protein or its
XX fragment, derivative, homologue, analogue or allelic variant, or for a
XX protein which comprises a Notch ligand DSL domain and at least one Notch
XX ligand EGF-like domain and optionally a membrane binding or transmembrane
XX domain. The first and second sequences are operably linked to one or more
XX promoters or enhancers or polyadenylation sequences. The antigen or
XX antigenic determinant is an allergen, autoantigen, Major
XX histocompatibility complex (MHC) (transplant) antigen, pathogen antigen,
XX tumour antigen or their antigenic determinant. (I) is useful for
XX modulating an immune response to an antigen in a subject. Pharmaceutical
XX compositions comprising (I) are useful for treating or preventing
XX conditions mediated by T cells, such as multiple sclerosis, rheumatoid
XX arthritis, diabetes, allergy, for treating immune disorders such as
XX autoimmune diseases of graft rejection such as allograft rejection,
XX treating cancer and organ transplants. The present sequence is dust mite
XX allergen Der p I which can be used as an antigen to prepare the particle
XX of the invention.
XX
XX Sequence 320 AA;
XX
XX Query Match          99.4%; Score 1670; DB 8; Length 320;
XX Best Local Similarity 99.4%; Pred. No. 8.2e-166;
XX Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
XX
XX 1 MKTIVLAISLALSAVYARPPSSIKTFEYKKA FNKSYATFEDEBARKNFLSVKYQSN 60
XX |||||
XX 1 MKTIVLAISLALSAVYARPPSSIKTFEYKKA FNKSYATFEDEBARKNFLSVKYQSN 60
XX
XX 61 GGAINHSDLSLDEPNRPLMSAEFEHKTQEDINAEITAGSINGNAPETIDLRQMTY 120
XX |||||
XX 61 GGAINHSDLSLDEPNRPLMSAEFEHKTQEDINAEITAGSINGNAPETIDLRQMTY 120
XX
XX 121 TPIRMQGGCGSAAVAFSGVATBESAYLAYRNQSLDLAEOLVDCASQHGCHGDTIPRGIEY 180
XX |||||
XX 121 TPIRMQGGCGSAAVAFSGVATBESAYLAYRNQSLDLAEOLVDCASQHGCHGDTIPRGIEY 180

```

```

DB 121 TPIRMQGGCGSAAVAFSGVATBESAYLAYRNQSLDLAEOLVDCASQHGCHGDTIPRGIEY 180
QY 181 IQHNGVQESYRYRYARBSQCRPNARFGISNYGOIYPPNNYKTRREALQTHSAIAYII 240
DB 181 IQHNGVQESYRYRYARBSQCRPNARFGISNYGOIYPPNNYKTRREALQTHSAIAYII 240
QY 241 GIKDLDAFRHYDGRITIQDNGYQPNYAAVNIIVGYSNAQGVYWTIVRSWDTNMGDNGYG 300
DB 241 GIKDLDAFRHYDGRITIQDNGYQPNYAAVNIIVGYSNAQGVYWTIVRSWDTNMGDNGYG 300
QY 301 YFAANIDLMIEEYVYVIL 320
DB 301 YFAANIDLMIEEYVYVIL 320
XX
XX RESULT 14
XX ID ADK52158 standard; protein; 320 AA.
XX AC ADK52158;
XX
XX 06-MAY-2004 (first entry)
XX
XX Full length Der p1 allergen.
XX
XX recombinant protein allergen; Antiallergic; Desensitization; antibody;
XX allergy; house dust mite; allergen; signal peptide.
XX
XX Dermotophaeoides pteronyasinus.
XX
XX WO2004005334-A2.
XX
XX 15-JAN-2004.
XX
XX 04-JUL-2003; 2003WO-FR002085.
XX
XX 05-JUL-2002; 2002FR-00008485.
XX
XX (STAL-) STALLERGENES SA.
XX (SEB ) SOC NAT EXPL IND TABACS & ALLUMETTES.
XX
XX Gomord V, Liénard D, Van Ree R, Van Oort E, Dorlhac De Borne F;
XX Didier Laurent A, Faye L;
XX
XX MPI; 2004-083498/08.
XX N-PSDB; ADK52157.
XX
XX Recombinant production of acarid protein allergen, useful for diagnosis
XX and treatment of allergy to house dust mites, comprises growing
XX transformed eukaryotes, particularly plants.
XX
XX Disclosure; SEQ ID NO 20; 55bp; French.
XX
XX The present invention relates to a method for production of a recombinant
XX protein allergen from an acarid of the genera Dermotophaeoides or
XX Euryglyphus. The allergens and also antibodies raised against them, are
XX useful for diagnosis and treatment of allergies to house dust mites. When
XX expressed in plants, allergens are synthesized and matured to
XX biologically active form, with essentially the same pattern of
XX glycosylation as the native protein. Recombinant expression provides a
XX pure protein; contrast complex mixtures of allergens currently used. The
XX present sequence represents the full length Der p1 allergen.
XX
XX Sequence 320 AA;
XX
XX Query Match          99.2%; Score 1666; DB 8; Length 320;
XX Best Local Similarity 99.1%; Pred. No. 2.1e-165;
XX Matches 317; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
XX
XX 1 MKTIVLAISLALSAVYARPPSSIKTFEYKKA FNKSYATFEDEBARKNFLSVKYQSN 60
XX |||||
XX 1 MKTIVLAISLALSAVYARPPSSIKTFEYKKA FNKSYATFEDEBARKNFLSVKYQSN 60

```

QY 61 GGAINHLSLSDLSDEFKRFMSAEAEHLKTOFDLNAETNACSINGNAPAEIDLRQMTV 120
 DB 61 GGAINHLSLSDLSDEFKRFMSAEAEHLKTOFDLNAETNACSINGNAPAEIDLRQMTV 120
 QY 121 TPIRMGGGGSAMAFSGVAATESAYLATRNOSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
 DB 121 TPIRMGGGGSAMAFSGVAATESAYLATRNOSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
 QY 181 IOHNGVQESYRYRYVAREQSCRRPNAQRFGISNYCOIYPPVNVKIREALAQTHSAIAVII 240
 DB 181 IOHNGVQESYRYRYVAREQSCRRPNAQRFGISNYCOIYPPVNVKIREALAQTHSAIAVII 240
 QY 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGVDYWIIVNSMDTNMGDNGYG 300
 DB 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGVDYWIIVNSMDTNMGDNGYG 300
 QY 301 YFAANIDLMIMEEYPYVIL 320
 DB 301 YFAANIDLMIMEEYPYVIL 320

RESULT 15

ABU1147
 ID ABU1147 standard; protein; 320 AA.

AC ABU1147;

DT 05-FEB-2003 (first entry)

XX House dust mite Der pl antigen.

XX House dust mite; Der pl antigen; human CD8 cell epitope; allergy;
 KW Immune response; atopic patient; CD8+ T-cell epitope; anti-allergic.

XX Dermatophagoides pteronyssinus.

PN WO200281512-A1.

PD 17-OCT-2002.

PF 03-APR-2002; 2002WO-GB001534.

PR 06-APR-2001; 2001GB-00008752.

PA (ISIS-) ISIS INNOVATION LTD.

PI O99 G, Seneviratne S;

DR WPI; 2003-058499/05.

PT New peptide fragments of the Der pl antigen of the house dust mite
 PT Dermatophagoides pteronyssinus contain a human CD8+ T cell epitope and
 PT are useful to treat and prevent allergy to the major house dust mite
 PT allergen.

PS Disclosure; Fig 5; 47pp; English.

XX The present invention relates to house dust mite (Dermatophagoides
 CC pteronyssinus) Der pl antigen peptides containing human CD8 cell
 CC epitopes. The peptides of the invention are useful in the treatment of
 CC human or animal patients, particularly to raise an immune response to the
 CC Der pl antigen. They are useful in the treatment and prevention of
 CC allergies to the major house dust mite antigen, and to monitor disease
 CC activity in atopic patients. The present sequence represents house dust
 CC mite Der pl antigen

XX SQ Sequence 320 AA;

Query Match 99.1%; Score 1665; DB 6; Length 320;

Best Local Similarity 99.1%; Pred. No. 2.7e-165;
 Matches 317; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 MKIVLAIASLALSAVYARPSISIKTFEEYKKAFAFKSVATFEDEEAARKNFLESYKVQSN 60

DB 1 MKIVLAIASLALSAVYARPSISIKTFEEYKKAFAFKSVATFEDEEAARKNFLESYKVQSN 60
 QY 61 GGAINHLSLSDLSDEFKRFMSAEAEHLKTOFDLNAETNACSINGNAPAEIDLRQMTV 120
 DB 61 GGAINHLSLSDLSDEFKRFMSAEAEHLKTOFDLNAETNACSINGNAPAEIDLRQMTV 120
 QY 121 TPIRMGGGGSAMAFSGVAATESAYLATRNOSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
 DB 121 TPIRMGGGGSAMAFSGVAATESAYLATRNOSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
 QY 181 IOHNGVQESYRYRYVAREQSCRRPNAQRFGISNYCOIYPPVNVKIREALAQTHSAIAVII 240
 DB 181 IOHNGVQESYRYRYVAREQSCRRPNAQRFGISNYCOIYPPVNVKIREALAQTHSAIAVII 240
 QY 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGVDYWIIVNSMDTNMGDNGYG 300
 DB 241 GIKDLDAFRHYDGRITIIQRDNGYQPNYAANIVGYSNAGVDYWIIVNSMDTNMGDNGYG 300
 QY 301 YFAANIDLMIMEEYPYVIL 320
 DB 301 YFAANIDLMIMEEYPYVIL 320

Search completed: May 17, 2005, 15:01:57
 Job time : 176 secs

GenCore version 5.1.6
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OM protein - protein search; using sw model

Run on: May 17, 2005, 14:46:34 ; Search time 41 Seconds
(without alignments)
750.960 Million cell updates/sec

Title: US-09-554-860B-2

Perfect score: 1680

Sequence: 1 MKIVLAISLALSAVYARP.....YFANIDLMIREPPVVL 320

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1377.5	82.0	319	2 A61500	allergen Der f I p
2	1232	73.3	245	2 J00337	allergen Der p 1 -
3	965.5	57.5	211	2 S21864	probable cysteine
4	388.5	23.1	94	2 S03380	major fecal allerg
5	370	22.0	326	2 T09259	cathepsin L-like p
6	369.5	22.0	458	1 KHRZOA	oryzain (EC 3.4.22
7	362.5	21.6	348	2 P84672	probable cysteine
8	357.5	21.3	322	2 S19649	cysteine proteinas
9	356.5	21.2	342	2 S71773	cysteine proteinas
10	355.5	21.2	324	2 S47432	cathepsin L (EC 3.
11	353.5	21.0	348	2 S00633	caricain (EC 3.4.2
12	352	21.0	326	2 S43991	cathepsin L-like p
13	350.5	20.9	454	2 UC4848	cysteine proteinas
14	347.5	20.7	367	2 J00634	caricain (EC 3.4.2
15	347.5	20.7	374	2 T03941	cysteine proteinas
16	345	20.5	329	2 JC2476	cathepsin K (EC 3.
17	344.5	20.5	343	1 KHDQ	cysteine proteinas
18	344.5	20.5	346	2 C86413	cysteine proteinas
19	344	20.5	358	2 UC7787	carrot seed cystel
20	343.5	20.4	352	2 T09760	chymopapain (EC 3.
21	343	20.4	337	2 T24387	probable cysteine
22	342.5	20.4	466	2 T06416	cysteine proteinas
23	342	20.4	323	2 S19650	cysteine proteinas
24	341	20.3	341	2 T45839	probable cysteine
25	341	20.3	380	1 TAGB	actinidin (EC 3.4
26	340.5	20.3	348	2 T09798	glycyl endopeptida
27	339.5	20.2	368	2 S47312	cysteine proteinas
28	336.5	20.0	351	2 T10503	fruit bromelain (E
29	335	19.9	364	2 T12039	cysteine proteinas

30	334	19.9	329	2 A49868	cathepsin K (EC 3.
31	332.5	19.8	355	2 T06122	cysteine proteinas
32	332.5	19.8	365	2 T06206	probable cysteine
33	332.5	19.8	378	2 S47434	cysteine proteinas
34	332	19.8	360	2 S57777	cysteine proteinas
35	332	19.8	364	2 T46630	cysteine proteinas
36	331.5	19.7	345	2 T07839	ananain (EC 3.4.22
37	331.5	19.7	450	2 S07051	cysteine proteinas
38	329.5	19.6	464	2 S24602	cysteine proteinas
39	329	19.6	480	2 T01207	cysteine proteinas
40	328.5	19.6	365	2 T06208	cysteine proteinas
41	327.5	19.5	324	2 T10518	fruit bromelain (E
42	327.5	19.5	325	2 S49451	cysteine proteinas
43	327.5	19.5	356	2 A86341	cysteine proteinas
44	327	19.5	324	2 S62735	cathepsin - Choris
45	326.5	19.4	471	1 KHRZOB	oryzain (EC 3.4.22

ALIGNMENTS

RESULT 1

A61500 allergen Der f I precursor - house-dust mite (Dermatophagoides farinae)

QY	1 MKIVLAISLALSAVYARPSSIKTFEEYKKAFNKSYATFDEBARKNLESVKYQGN 60	
DB	1 MKFVLAISLVLVT-VYAPASIKTF-BEKKAFNNKYATVEEBYARKNFLSLKVEAN 58	
QY	61 GGAHNLSDLSIDERNRFLMSAKAFEHKTFPDMAETNACISNG-NAPATIDLRQMT 119	
DB	59 KGAHNLSDLSIDERNRYLMGAEAFEOIKTFPDMAETNSACRINSVNPSELDRLSRT 118	
QY	120 VPIRMGGCGSAPSGVAATESAYIAYRNOSLDLAEQELVDCASQHGCHDTPRGTE 179	
DB	119 VPIRMGGCGSCWAPSGVAATESAYIAYRNOSLDLSBELVDCASQHGCHDTPRGTE 178	
QY	180 YIQHNGVVOESYRYVAREQSCRPNARFGISNYCOIYPPVNNKIREALQTHSAIAYI 239	
DB	179 YIQHNGVVEREYRYPYARQRPRNSCHYGSNCOIYPPVVKQIRALQTHAIAYI 238	
QY	240 IGIKDIARFHYDGRITTIQDNGYQPNYAAVNIIVGYSNAQGVYIVRNSWPTNMGDNY 299	
DB	239 IGIKDIARFQYHDGRTITTIQDNGYQPNYAAVNIIVGYSQGDYIVRNSWPTNMGDSY 298	
QY	300 GYFANIDLMIREPPVYL 320	
DB	299 GYFQAGNNIDLMIREPPVILM 319	

RESULT 2

J00337 allergen Der p 1 - house-dust mite (Dermatophagoides pteronyssinus) (fragment)
C/Species: Dermatophagoides pteronyssinus
C/Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 09-Jul-2004
C/Accession: J00337; A27582; A31657; C27634
R/Chua, K.Y.; Stewart, G.A.; Thomas, W.R.; Simpson, R.J.; Dilworth, R.J.; Plozza, T.M.;

J. Exp. Med. 167, 175-182, 1988
 A/Title: Sequence analysis of cDNA coding for a major house dust mite allergen, Der p 1:
 A/Reference number: J00337; MUID:88089411; PMID:3335830
 A/Accession: J00337
 A/Molecule type: mRNA
 A/Residues: 1-245 <CHU>
 A/Cross-references: UNIPROT:P08176
 R/Thomas, W.R.; Stewart, G.A.; Simpson, R.J.; Chua, K.Y.; Plozza, T.M.; Dilworth, R.J.;
 Int. Arch. Allergy Appl. Immunol. 85, 127-129, 1988
 A/Title: Cloning and expression of DNA coding for the major house dust mite allergen Der
 A/Reference number: A27582; MUID:88114080; PMID:3276629
 A/Accession: A27582
 A/Molecule type: mRNA
 A/Residues: 6-101 <THO>
 A/Cross-references: GB:M24794; NID:9387591; PIDN:AAA28296.1; PID:9387592
 R/Simpson, R.J.; Nice, E.C.; Moritz, R.L.; Stewart, G.A.
 Protein Seq. Data Anal. 2, 17-21, 1989
 A/Title: Structural studies on the allergen Der p1 from the house dust mite Dermatophag
 A/Reference number: A31657; MUID:89098855; PMID:2911558
 A/Accession: A31657
 A/Status: preliminary
 A/Molecule type: protein
 A/Residues: 24-56, 'XX', 59-64, 102-118, 134-149, 185-192, 'X', 194-200, 'X', 202 <SIM>
 R/Lind, P.; Hansen, O.C.; Horn, N.
 J. Immunol. 140, 4256-4262, 1988
 A/Title: The binding of mouse hybridoma and human IGE antibodies to the major fecal alle
 d by solid-phase inhibition assays with radiolabeled antigen.
 A/Reference number: A92819; MUID:88229138; PMID:3372999
 A/Accession: C27634
 A/Molecule type: protein
 A/Residues: 24-52 <LIN>
 C/Superfamily: papain
 C/Keywords: glycoprotein
 F/24-245/Product: allergen Der p 1 #status predicted <MAT>
 F/75/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 73.3%; Score 1232; DB 2; Length 245;
 Best Local Similarity 94.3%; Pred. No. 2.8e-92;
 Matches 231; Conservative 1; Mismatches 13; Indels 0; Gaps 0;

QY 76 KNRFLMSAEAEFEHKTQPDLMNAETNACISNGNAPAEIDLAQMRTPVPIRMGGCGSMAP 135
 DB 1 KNRLMSAEAEFEHKTQPDLMNAETNACISNGNAPAEIDLAQMRTPVPIRMGGCGSMAP 60
 QY 136 SGVAATSAVLAAYNOSLDIAEQLVDCASQHGCHGPTIRGIEYIQHNVQVQESYRYV 195
 DB 61 SGVAATSAVLAAYNOSLDIAEQLVDCASQHGCHGPTIRGIEYIQHNVQVQESYRYV 120
 QY 196 AREGSCRRPNAQREGISNYCOIYPPNVNKIREALAQTHSAIAVITIGIKDLDAFRHYDGR 255
 DB 121 AREGSCRRPNAQREGISNYCOIYPPNVNKIREALAQTHSAIAVITIGIKDLDAFRHYDGR 180
 QY 256 TIQDNGVQPNYAVNVTVGSNAGVNDVTVRNSWDPTNMGDNGYGAANTIDLMTEBP 315
 DB 181 TIQDNGVQPNYAVNVTVGSNAGVNDVTVRNSWDPTNMGDNGYGAANTIDLMTEBP 240
 QY 316 YVVI 320
 DB 241 YVVI 245

RESULT 3
 S21864
 probable cysteine proteinase (EC 3.4.22.-) - Euroglyphus maynei
 N/Alternate names: allergen Eur m I
 C/Species: Euroglyphus maynei
 C/Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 09-Jul-2004
 C/Accession: S21864
 R/Kent, N.A.; Hill, M.; Keen, J.N.; Holland, P.W.H.; Hart, B.
 submitted to the EMBL Data Library, June 1991
 A/Reference number: S21864
 A/Accession: S21864
 A/Status: preliminary

A/Molecule type: DNA
 A/Residues: 1-211 <KEN>
 A/Cross-references: UNIPROT:P25780; EMBL:X60073
 C/Genetics: 100/3; 155/2
 A/Intons: 100/3; 155/2
 C/Superfamily: papain
 C/Keywords: cysteine proteinase; hydrolase

Query Match 57.5%; Score 965.5; DB 2; Length 211;
 Best Local Similarity 83.4%; Pred. No. 8.5e-71;
 Matches 176; Conservative 15; Mismatches 19; Indels 1; Gaps 1;

QY 99 TNACISNGNAPAEIDLAQMRTPVPIRMGGCGSMAPSGVAATSAVLAAYNOSLDIAE 157
 DB 1 TNACISNGNAPAEIDLAQMRTPVPIRMGGCGSMAPSGVAATSAVLAAYNOSLDIAE 60
 QY 158 QELVDCASQHGCHGPTIRGIEYIQHNVQVQESYRYVAREGSCRRPNAQREGISNYCOI 217
 DB 61 QELVDCASQHGCHGPTIRGIEYIQHNVQVQESYRYVAREGSCRRPNAQREGISNYCOI 120
 QY 218 YPPNVNKIREALAQTHSAIAVITIGIKDLDAFRHYDGRITIQDNGVQPNYAVNVTVGSN 277
 DB 121 SEPDSEKIRIQALQTHSAIAVITIGIKDLDAFRHYDGRITIQDNGVQPNYAVNVTVGSN 180
 QY 278 AQGVNDVTVRNSWDPTNMGDNGYGAANTIDL 308
 DB 181 AQGVNDVTVRNSWDPTNMGDNGYGAANTIDL 211

RESULT 4
 S03380
 major fecal allergen Der p 1 - house-dust mite (Dermatophagoides pteronyssinus) (fragment
 N/Alternate names: allergen Der p1
 C/Species: Dermatophagoides pteronyssinus
 C/Date: 05-Mar-1995 #sequence_revision 01-Sep-1995 #text_change 09-Jul-2004
 C/Accession: S03380
 R/Simpson, R.J.; Nice, E.C.; Moritz, R.L.; Stewart, G.A.
 Protein Seq. Data Anal. 2, 17-21, 1989
 A/Title: Structural studies on the allergen Der p1 from the house dust mite Dermatophago
 A/Reference number: A31657; MUID:89098855; PMID:2911558
 A/Accession: S03380
 A/Status: preliminary
 A/Molecule type: protein
 A/Residues: 1-28;29-43;44-60;61-76;77-94 <SIM>
 A/Cross-references: UNIPROT:Q7M431
 C/Superfamily: papain

Query Match 23.1%; Score 388.5; DB 2; Length 94;
 Best Local Similarity 48.1%; Pred. No. 1.5e-24;
 Matches 87; Conservative 0; Mismatches 5; Indels 89; Gaps 4;

QY 99 TNACISNGNAPAEIDLAQMRTPVPIRMGGCGSMAPSGVAATSAVLAAYNOSLDIAE 156
 DB 1 TNACISNGNAPAEIDLAQMRTPVPIRMGGCGSMAPSGVAATSAVLAAYNOSLDIAE 43
 QY 157 QELVDCASQHGCHGPTIRGIEYIQHNVQVQESYRYVAREGSCRRPNAQREGISNYCOI 216
 DB 44 -----GIEYIQHNVQVQESY-----REGISNYCOI 68
 QY 217 YPPNVNKIREALAQTHSAIAVITIGIKDLDAFRHYDGRITIQDNGVQPNYAVNVTVGSN 276
 DB 69 YPPNVNK-----DNGVQPNYAVNVTVGSN 93

RESULT 5
 T09259
 cathepsin L-like proteinase (EC 3.4.22.-) - liver fluke
 C/Species: Fasciola hepatica (liver fluke)
 C/Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004

C:\Accession: T09259
R:Henseler, V.T.: Dobbelare, D.A.E.
Mol. Biochem. Parasitol. 64, 11-23, 1994
A>Title: Cloning of a protease gene family of Fasciola hepatica by polymerase chain reaction
A:Reference number: J16631; MUID:94359526; PMID:8078514
A:Accession: T09259
A>Status: preliminary; translated from GB/EMBL/DDBJ
A:Molecule type: mRNA
A:Residues: 1-326 <HEU>
A:Cross-references: UNIPROT:Q24944; EMBL:Z22765; NID:g452257; PID:g452258
C:Superfamily: papain
C:Keywords: cysteine proteinase; hydrolase
F132,269,289/Active site: Cys, His, Asn #status predicted

Query Match 22.0% Score 370; DB 2; Length 326;
Best Local Similarity 29.4%; Pred. No. 2.4e-22;
Matches 94; Conservative 58; Mismatches 126; Indels 42; Gaps 10;

OY 10 LALASAVYAPRSSIKTFEEYKAFNKSYATFEDEBAARKNPL-ESVKVQNSG----- 61
 ||| : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | :
DB 5 VALAVLVGVPAASDDLMHQKRIRYNKENGDDEH--RNIMGWKVKHIOENLRGLGL 62

OY 62 ---GAINHLSDSLDFEKNRFMSABAEHLKTQFDINAEITNACSSINGNAPEIDLROM 117
DB 63 VTYYKLGNQTDLTDFEFKAKYLLEIPRSSELSR-GIPIYKANCLAV----PSTIDRWY 117

OY 118 RVTTPIRMGGCGGSAMAFSGVAATESAYLAYRMOSLDLAEGELVDCA---SOGHGCDTI 174
 ||| : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | :
DB 118 YVTEVWDQDQCSCSMFAFTGAVEGFRRKERASASEEQDLVCTDRFGVYGCGGYW 177

OY 175 PGIEIVIOHNNGVQESYRYRVAREQSCKRPAAQRG-ISNQGIYPNNKIREALAQTH 233
DB 178 ENAYEFLKKNGLTESYYPYQAVVGPCQYGRRLAAKATGYTVHSGEIELKN----- 231

OY 234 SAIATIVIGIKDLDAFR-HYQRTIIQRDNGYQPNVA-----AVNIYGSNAQGVDYWI 285
 ::| : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | :
DB 232 ----LVGEDLLPALVALDADSDPFMYQSGITYSQICLPDLRLTHAVLAYVIGSGDGDTYMI 286

OY 286 VENSMDTNWGNDNGGYFPAN 305
DB 287 VKNSMGTWGEGEDGYIRPARN 306

RESULT 6
KMRZOA
oryzain (EC 3.4.22.-) alpha precursor - rice
C:Species: Oryza sativa (rice)
C:Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 09-Jul-2004
C:Accession: J00388; A40053
R:Matanabe, H.; Abe, K.; Emori, Y.; Hosoyama, H.; Arai, S.
submitted to JIPID, May 1991
A:Reference number: J00388
A:Accession: J00388
A:Molecule type: DNA
A:Residues: 1-458 <MAT1>
A:Cross-references: UNIPROT:P25776
R:Matanabe, H.; Abe, K.; Emori, Y.; Hosoyama, H.; Arai, S.
J. Biol. Chem. 266, 16897-16902, 1991
A>Title: Molecular cloning and gibberellin-induced expression of multiple cysteine protease
A:Reference number: A40053; MUID:91358494; PMID:1885617
A:Accession: A40053
A:Molecule type: mRNA
A:Residues: 1-458 <MAT2>
A:Cross-references: GB:090406; NID:g218180; PIDN:BA14402.1; PID:g218181
C:Superfamily: papain
C:Keywords: cysteine proteinase; glycoprotein; hydrolase; seed
F12-128/Domain: signal sequence #status predicted <SIG>
F129-346/Product: oryzain alpha #status predicted <MAT>
F349-458/Domain: carboxyl-terminal propeptide #status predicted <CTP>
F150-192,184-225,283-314/disulfide bonds: #status predicted
F153,289,309/Active site: Cys, His, Asn #status predicted
F1445/Binding site: carbohydrate (Asn) (covalent) #status predicted

```

Query Match      22.0%; Score 369.5; DB 1; Length 458;
Best Local Similarity 29.0%; Pred. No. 4e-22;
Matches 99; Conservative 60; Mismatches 131; Indels 51; Gaps 10.

QY 1 MKIVLAATSLALASAVVAPRSSI-----KTEEYVKAFNKSVATPEDEEAAARK 48
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 3 ISMLAAAAALLLLLSLAAADMSIVSYGSRSEEARLYAEWFAEHGKSYNAVGEERRYA 62
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 49 NFLSVKVVQVNGGA-----INHLDTSLDEPKNRP--LMSAAPHKLKTQFDL 95
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 63 AFRDRLRTIDENHNAADAAGVHSFRLGLNRFADLTNEERYDTYLLGRNPRRRKVSDRYL 122
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 96 NAETNACISINCAPAETIDLRMRTTTPTRMGCGCGSSAAFSGVAATESAYLAVRNSIDL 155
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 123 AADNEA-----LPESVDMRTKGAAEAKIDQGGCGSCNAFSAIAVAEIDINQIVTGDLLSL 176
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 156 AEQELVDCASGH--GCHGDTIPRGIEVYIQHNQVWG--ESYRFRVAREGSC--RRPNAQRG 210
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 177 SEQELVDCDTSYNGECNGGLMDYAFDFLIINNGGIDTEDDYPKGDRCEDVNRKKAQVVT 236
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 211 ISNYQCIIPRVNWKIREALQTHSAIANITIGIKDLDAFRHYD----GRTIQRDNGVQP 265
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 237 IDSYEDVTPNSETSIQKAVRNQPVSALEAGER---ARQLYSSGIFTKGCTALDHG--- 290
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 266 NYAAVNIIVGYNAQGVQDIYVNSDNTMGDNGVGYFPAANI 306
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 291 ---VAAVGYGTENGKDIYVINSGKSGWSSGYRMERNI 327
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

```

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RESULT 7
P84672
probable cysteine protease [imported] - Arabidopsis thaliana
C|Species: Arabidopsis thaliana (mouse-ear cress)
C|Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004
C|Accession: F84672
R|Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
M.: Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; Vanaken, S.E.; Unayam, L.; Tallon, L.;
euss, D.; Nieman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J.
Nucleic Acids Res. 29: 1761-1768, 2001
A|Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A|Reference number: A84420; UID:20083487; PMID:1617197
A|Accession: F84672
A|Status: preliminary
A|Molecule type: DNA
A|Residues: 1-348 <STO>
A|Cross-references: UNIPROT:Q9ZQH7; GB:AEO02093; NID:g4314384; PID:NADD15594.1; GSPDB:GM
C|Geneletics:
A|Gene: At2G27420
A|Map position: 2
C|Superfamily: papain

Query Match      21.6%; Score 362.5; DB 2; Length 348;
Best Local Similarity 32.0%; Pred. No. 1e-21;
Matches 113; Conservative 53; Mismatches 134; Indels 53; Gaps 18;

Cy 1 MKIVVAIASLALSL--AVYARPSIKTFEERYKKAFNSVATFFEDBEARKNF-----LES 53
   | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db 9 LTIFLSYRLSILTSRCGLFPAASAIKHEHQMAMFNRYIS--DETEKRNFNIKKNLEF 65

    54 VKYVOISNGCA-----INHLSDLSLDEFK--NRFLMSAEAFEHLKTQPDLNATNA----- 101
Db 66 VGNFMMNNKIITKVVDINEFSDDLDFEEFRATHGLVVEALTRIST--LSGKNTVFERY 122

Cy 102 --CSINGNAPAITDLRFOKETVPPIRMQGCGSGMAASGVAAATESAYIATAYNOSIDLAEQE 159
    |||||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 123 GNVSUNGES--MDWRQEGAVTPVKYQGRCGCGMAFSASAVALVGITKITIGELVLSLBQQ 179

Cy 160 IYDGCASH--GGHGTLTPIRGIEY-IQNNGVQVESYRYVARERQSCRPN-----QRFGI 211
    |||||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 180 LIIDCRBDNYGRCRGGLMTAKFAFYIIYNOGITTEDNTPYQSQCOTCSSSTLLSSFPRAATI 239

    212 SNVCQITYPENNVAKIREALAQTSHALAVIIGIKLD-AFRHYDGRTIIQDNNGQPNTAAV 270

```

DB 240 SGR-ETVPMK---NEEELLQAVSQPVSIGIEGGAFFRYSG-GYFNGECGDLHH-AV 293
 QY 271 NIVGYS-NAOGVDYWRNSWDTNWGNGYGYPAANID-----LMTEIYP 315
 DB 294 TIVGYGSEBGTXYKVVVKNKSWGSEGTMYRIRKRDVDAQGMCGLAIFLFP 346

RESULT 8

S19649
 Cysteine proteinase (EC 3.4.22.-) LDCP1 precursor - American lobster
 C/Species: Homarus americanus (American lobster)
 C/Date: 04-Dec-1992 #sequence_revision 04-Dec-1992 #text_change 09-Jul-2004
 C/Accession: S19649; S31654; S06154; A58795
 R/Laycock, M.V.; Mackay, R.M.; Di Francesco, M.; Gallant, J.W.
 FEBS Lett. 292, 115-120, 1991
 A/Title: Molecular cloning of three cDNAs that encode cysteine proteinases in the digest
 A/Reference number: S19649; MUID:92070467; PMID:1959590
 A/Accession: S19649
 A/Molecule type: mRNA
 A/Residues: 1322 <LAY1>
 A/Cross-references: UNIPROT:P13277; EMBL:X63567; NID:G11050; PIDD:CAA45127.1; PID:G11051
 R/Laycock, M.V.; Mackay, R.M.; Di Francesco, M.; Gallant, J.W.
 FEBS Lett. 301, 125, 1992
 A/Title: Correction. Molecular cloning of three cDNAs that encode cysteine proteinases
 A/Reference number: S31654; MUID:93083613; PMID:1451782
 A/Accession: S31654
 A/Molecule type: mRNA
 A/Residues: 1-322 <LAY2>
 A/Cross-references: EMBL:X63567; NID:G11050; PIDD:CAA45127.1; PID:G11051
 R/Laycock, M.V.; Hiramata, T.; Hasnain, S.; Watson, D.; Storer, A.C.
 Biochem. J. 263, 439-444, 1989
 A/Title: Purification and characterization of a digestive cysteine proteinase from the
 A/Reference number: S06154; MUID:90088376; PMID:2587115
 A/Accession: S06154
 A/Molecule type: protein
 A/Residues: 106-113, 'E', 115-133 <LAY3>
 R/Thibault, P.; Plesance, S.; Laycock, M.V.; Mackay, R.M.; Boyd, R.K.
 Int. J. Mass Spectrom. Ion Process. 111, 317-353, 1991
 A/Title: Characterization of a mixture of lobster digestive cysteine proteinases by ion
 A/Reference number: A58795
 A/Accession: A58795
 A/Status: preliminary
 A/Molecule type: protein
 A/Residues: 106-322 <THR>
 C/Superfamily: papain
 C/Keywords: cysteine proteinase; disulfide bond; hydrolase; zymogen
 F/1-16/Domain: signal sequence #status predicted <SIG>
 F/17-105/Domain: propeptide #status predicted <PRO>
 F/106-322/Product: cysteine proteinase #status experimental <MAT>
 F/126-170, 160-203, 262-311/Disulfide bonds: #status predicted
 F/129, 269, 289/Active site: Cys, His, Asn #status predicted

Query Match 21.3%; Score 357.5; DB 2; Length 322;
 Best Local Similarity 30.7%; Pred. No. 2, 4e-21;
 Matches 100; Conservative 56; Mismatches 127; Indels 41; Gaps 13;
 QY 1 MKTVLAISLAIASVYARPSSTKTEBEYKKAFFNKATATEDEBARKNFLSVKYQS- 59
 DB 1 MKTVLAFLFGIALAA--ANPS---WEEFGKFGKRVKVDLEERVRLNVLDMIOYIEEP 54
 QY 60 ---NGGAIHSLDLSDEFKRFMSAEFELHTQFDLNAETNCSINGNA---PAE1 112
 DB 55 NKKEYRGEVY--NLAINQSD--MTNEKFNAMKGYKKGPPRAVFTSTDAPESTEV 109
 QY 113 DLROMRTVPIRMQGGGSAFAFSGVAATBSAYLAENQSLDLAEQLVDCAS---QHG 168
 DB 110 DMRTKAVTVTKQGGGCMATSTTGIGIGQHFPLTKGRVLSLSEQLVDCAGSSTYNOG 169
 QY 169 CHDDTTPRGIEYIQHNGVVO-ESYRYRVAEFGSCRPNAARFG--ISNTQIYPPVANKI 225
 DB 170 CNGGWERAIAMVYRDNQGVDTBSSYPFARDNTRCF-NSNTIGATCTGVGIAQGSBSAL 228

QY 226 REALQTHSAIAVIGIKDLDAFRHYDGTIIQDNGYQPNYA-----AVNIVGYSNAQ 279
 DB 229 KTR-TRDIGIPISVAIDASHRSFQSYTYG-----YPPSCSSQGLDAVLAVGSGSG 280
 QY 280 GVDYWRNSWDTNWGNGYGYPAAN 305
 DB 281 GQDFWLKNSWATSWGSGEYIKKARN 306

RESULT 9

S71773
 Cysteine proteinase (EC 3.4.22.-) precursor - Zinnia elegans
 C/Species: Zinnia elegans
 C/Date: 04-Feb-1998 #sequence_revision 20-Feb-1998 #text_change 09-Jul-2004
 C/Accession: S71773
 R/Je, Z.H.; Varner, J.E.
 Plant Mol. Biol. 30, 1233-1246, 1996
 A/Title: Induction of cysteine and serine proteases during xylogenesis in Zinnia elegans.
 A/Reference number: S71773; MUID:96311011; PMID:8704132
 A/Accession: S71773
 A/Molecule type: mRNA
 A/Residues: 1-342 <YEA>
 A/Cross-references: UNIPROT:Q41721; EMBL:U19267; NID:G641904; PIDD:AAC49406.1; PID:G64190
 A/Experimental source: strain petter pan
 C/Superfamily: papain
 C/Keywords: cysteine proteinase; glycoprotein; hydrolase
 F/1-26/Domain: signal sequence #status predicted <SIG>
 F/27-342/Product: cysteine proteinase #status predicted <MAT>
 F/153, 293, 314, 315, 316/Binding site: substrate (Gln, Asp, Asn, Ser, Trp) #status predicted
 F/156-198, 190-230, 288-338/Disulfide bonds: #status predicted
 F/159, 294, 314/Active site: Cys, His, Asn #status predicted
 F/178/Binding site: carbonylate (Asn) (covalent) #status predicted

Query Match 21.2%; Score 356.5; DB 2; Length 342;
 Best Local Similarity 29.6%; Pred. No. 3, 1e-21;
 Matches 89; Conservative 54; Mismatches 113; Indels 45; Gaps 8;

QY 23 IKTPBEYKKAFFNKATATEDEBARKNFLSVKYQVNSNG-----AINHLSLDEF 75
 DB 46 IHLFESLYKHSIKTYSFBEKLRHFRIPDMNLKHIDETKYSNMYLGLNEFADLHEEP 105
 QY 76 KNRFL-----MSAEFELHTQFDLNAETNCSINGNAPAEIDLRQRTYTPR 124
 DB 106 KKKFLGFKGLERKQDSIEQFRY-RDPVLD-----PKSVWRKKGAASPVK 151
 QY 125 MGGCGSSAFAFSGVAATBSAYLAENQSLDLAEQLVDCAS---QHGCHDDTTPRGIEYIQ 182
 DB 152 NQGCGSCMAFSTVAABEGINQITVGNLTVLSQELIDCDTFNNCGGLMDYAFAYT 211
 QY 183 HNGVQESYRYRVAEFGSC--RRPNAORFISNYCOIYPPVANKIREALQTHSAIAVLI 240
 DB 212 RNLHHEBYPIYMSGTCDERKDSBKTYISGHHVPPANNESFLKALANQISVAIEA 271
 QY 241 GIKDLDAFRH--YDGTIIQDNGYQPNYAANIVGYSNAOGVDYWRNSWDTNWGNG 298
 DB 272 SGDRDFYSGGVYDHCGETLDHG-----VAAVGYSKGLDYIVRNSWGPWKGEKG 324
 QY 299 Y 299
 DB 325 Y 325

RESULT 10

S47432
 Cathepsin L (EC 3.4.22.15) - Norway lobster
 N/Cathepsin: gastrin/cholecystokinin-cross-reactive peptide DI
 C/Species: Nephrops norvegicus (Norway lobster)
 C/Date: 23-Nov-1994 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
 C/Accession: S47432; A48398
 R/Je Boulay, C.; van Wormhout, A.; Sello, D.
 submitted to the EMBL Data Library, August 1994
 A/Description: Molecular cloning and sequencing of the two cDNAs that encode cathepsin L

Db 114 WRESGYVTEVQDQNGSCWAFSTGTGMEQYMKNERTSISFSEQOLVDCSGPMNGGCS 173
 QY 171 GDIPRGIEYQNGVQVSEYRYVAEBCRCRPMNORFC---ISNYCOIYPPNVAKIRE 227
 Db 174 GGLMENAQYQKQPGLETESSTPTAVEGCR--YKQQLVAKVGTYYTHSGSEVELKN 231
 QY 228 AL-AQTHSAIYVIGIKDLDAFHHDRTTIORDNGYQPNYAAVNTVGSNAQGVYMW 286
 Db 232 LVGARARAAYAVDV---ESDFPMYRSGTYSQSCSPLRVNH-AVLAVGTQGTGTDYMW 287
 QY 287 RNSWDNTWGDNGYGFPAAN-----IDLMMIEEYP 315
 Db 288 KNSWGTYGEGYIRMARNRGNMGIALSLASLPMVAEFP 326

RESULT 13

JC4848
 cysteine proteinase (EC 3.4.22.-) - Douglas fir
 N/Alternate names: pseudotzain
 C/Species: Pseudotsuga menziesii (Douglas fir)
 C/Date: 15-Aug-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
 C/Accession: JC4848
 R/Tranarger, T.O.; Misra, S.
 Gene 172, 221-226, 1996
 A/Title: Structure and expression of a developmentally regulated cDNA encoding a cysteine
 A/Reference number: JC4848; MUID:96269408; PMID:8682307
 A/Accession: JC4848
 A/Molecule type: mRNA
 A/Residues: 1454 <TRA>
 A/Cross-references: UNIPROT:Q40922; GB:U41902; NID:g1208548; PIDN:AAC9455.1; PID:g12085
 A/Note: It is uncertain whether Met-1, Met-15 or Met-41 is the initiator
 C/Comment: This enzyme catalyzes the initial stages of storage protein mobilization dur
 C/Superfamily: papain
 C/Keywords: cysteine proteinase; hydrolase
 F:156,292,312/Active site: Cys, His, Asn #status predicted

Query Match 20.9%; Score 350.5; DB 2; Length 454;
 Best Local Similarity 28.1%; Pred. No. 1.4e-20;
 Matches 105; Conservative 59; Mismatches 119; Indels 91; Gaps 16;
 QY 4 VLAISLILASVYARPS---SIKTFE-----EYKARN----- 34
 Db 3 ILILFAVLASAMAGSASRADFSIISYDQLIGDAIMELYELMLAQHKKAYNGLDEKQ 62
 QY 35 KSVATEDEEAAKNFLSEYKYV--QSGNG-----AINHLSDLSDEFKRFAMSAEAF 86
 Db 63 KKSIVKFD-----NFL-----YIHQNNQNPSTYKGLGNQFADLSHEEFAAI----- 105
 QY 87 EHLKTFDLNAETNAC-----SINGNAPAEIDLQRMRTVTPIRMQGGCGSAMAFSGVA 139
 Db 106 --LGTKLDAKRLSRSPSPRYQYSGVEDLPESIDMRKGAVTAVKQNGSCGSCWAFSTVA 163
 QY 140 AITSATVAYNQLDLAEGLVDCASQ--GCHGDTIPRGIEYIQNH-GYVQSYTRYVA 196
 Db 164 AVGINQIVTGNLTSISEQELVDCDSYNGCNGGLMDYAFQPIISNGSLSDSDYPPYKA 223
 QY 197 REQSC--RRPNAORFGISNFCOIYPPNVNIRREALQTHSAIYVIGIKDLDAFRHGR 254
 Db 224 NNGSCAIRKNAHVITDIEDYVDPENDEKSLKKAANQPIISVAILASGR---AFQRTESG 280
 QY 255 TI-----IORDNGYQPNYAAVNTVGSNAQGVYMWIRNSWDNTWGDNGYGFPAANID-- 307
 Db 281 VFTSNGCTQLDHG-----VTLVGYSESGIDYMWLVKNSWGSWGBKGFYIKLQRLMGA 333
 QY 308 -----LMMIEEYP 315
 Db 334 STGWCGLAMEASYP 347

RESULT 14

JN0634
 caricain (EC 3.4.22.30) II precursor - papaya
 N/Alternate names: papaya proteinase omega II

C/Species: Carica papaya (papaya)
 C/Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 09-Jul-2004
 C/Accession: JN0634; A43027; S31823
 R/Revell, D.F.; Cummings, N.J.; Baker, K.C.; Collins, M.E.; Taylor, M.A.J.; Sumner, I.G.;
 Gene 127, 221-225, 1993
 A/Title: Nucleotide sequence and expression in *Escherichia coli* of cDNAs encoding papaya I
 A/Reference number: JN0633; MUID:93273235; PMID:7684720
 A/Accession: JN0634
 A/Molecule type: mRNA
 A/Residues: 1-367 <REV>
 A/Cross-references: UNIPROT:Q42673; EMBL:X69877; NID:g22660; PIDN:CAA9504.1; PID:g22661
 A/Experimental source: fruit and leaf
 C/Genetics:
 A/Gene: Pp-omega
 C/Superfamily: papain
 C/Keywords: cysteine proteinase; hydrolase
 F:1-11/Domain: signal sequence #status predicted <SIG>
 F:12-132/Domain: propeptide #status predicted <PRO>
 F:133-367/Product: caricain II #status predicted <MAT>
 F:154-195,188-227,285-336/Disulfide bonds: #status predicted
 F:157,291,311/Active site: Cys, His, Asn #status predicted

Query Match 20.7%; Score 347.5; DB 2; Length 367;
 Best Local Similarity 30.7%; Pred. No. 1.8e-20;
 Matches 90; Conservative 54; Mismatches 118; Indels 31; Gaps 11;
 QY 23 IKTFEYKKAFFNSVATFDEEAAKNFLSEYKYVQSGNG-----AINHLSDLSLDEF 75
 Db 45 IQLFNSWMLNHNKFTYNDVEKLYRFELFQKNLNTIDETKKNNSYRLGNEFADLSNDF 104
 QY 76 KNEF--LMSAEFHLKTFQDLNAETNACSINGNAPAEIDLQRMRTVTPIRMQGGCSA 132
 Db 105 NEKYVSLIDATFQGYDEEF--INEDI-----VNLPEVMDRKKAAYPVPHQSGCSG 157
 QY 133 MAFSGVAATBSAVLAARNSDLAEOELVDCASQ--GCHGDTIPRGIEYIQNHGVQVSEY 191
 Db 158 MAFSAVAATVEGINKRTGTVLSEQLVDCERSHSGCKGYPVALLEYVAKNGLHRSK 217
 QY 192 YRYVAEBCRCRPMNORFC---ISNYCOIYPPNVNIRREALQTHSAIYVIGIKDL 246
 Db 218 YPKAKQGTICR--AKQVGGPIVKTSGVGRVQPNNEGILNMLAK--QPVSVVSEKGR 271
 QY 247 AFRHHDRTTIORDNGYQPNYAAVNTVGSNAQGVYMWIRNSWDNTWGDNGY 299
 Db 272 PFQLYKG-GIFEGPCGTGYDH-AVTAVGYGKSGKGYILIKNSWGTAWEKGY 322

RESULT 15

T03941
 cysteine proteinase (EC 3.4.22.-) precursor - common tobacco
 C/Species: Nicotiana tabacum (common tobacco)
 C/Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
 C/Accession: T03941
 R/Becker, C.; Muentz, K.
 submitted to the EMBL Data Library, September 1997
 A/Description: cDNA cloning of a CPRI-homologous proteinase from germinating tobacco seed
 A/Reference number: Z15148
 A/Accession: T03941
 A/Status: preliminary; translated from GB/EMBL/DBJ
 A/Molecule type: mRNA
 A/Residues: 1-374 <BC>
 A/Cross-references: UNIPROT:Q24137; EMBL:Z299173; PIDN:CAB16317.1
 A/Experimental source: clone TCPRI
 C/Superfamily: papain
 C/Keywords: cysteine proteinase; hydrolase
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-374/Product: cysteine proteinase #status predicted <MAT>
 F:164,299,319/Active site: Cys, His, Asn #status predicted

Query Match 20.7%; Score 347.5; DB 2; Length 374;
 Best Local Similarity 29.3%; Pred. No. 1.9e-20;
 Matches 96; Conservative 58; Mismatches 139; Indels 35; Gaps 12;

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GenCore version 5.1.6
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OW protein - protein search, using sw model

Run on: May 17, 2005, 14:06:33 ; Search time 174 Seconds
(without alignments)
941.755 Million cell updates/sec

Title: US-09-554-860B-2

Perfect score: 1680

Sequence: 1 MKVIALASLALSAVYARP.....YFANIDLMWIEPYVIL 320

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1670	99.4	320	1	MMAL_DERPT
2	1434.5	85.4	321	1	EUMI_EURMA
3	1406.5	83.7	321	1	MMAL_DERPT
4	934.5	55.6	210	2	Q9GYT0
5	830	49.4	263	2	Q819P1
6	606	36.1	146	2	Q95X05
7	463	27.6	107	2	Q95X04
8	436	26.0	133	2	Q968Y3
9	388.5	23.1	94	2	Q7M431
10	384	22.9	327	2	Q6QRF0
11	382.5	22.8	445	2	Q8W182
12	378	22.5	323	2	Q86GF7
13	373	22.2	326	2	Q6T857
14	371	22.1	326	2	Q7JN08
15	370.5	22.1	326	2	Q95VA7
16	370.5	22.1	333	2	Q7SK07
17	370	22.0	326	2	Q24944
18	369.5	22.0	458	1	ORVA_ORYSA
19	368	21.9	326	2	Q9NGM2
20	368	21.9	461	2	Q9FSS0
21	367.5	21.9	335	2	Q6A1I1
22	365	21.7	324	2	Q8T0X0
23	364.5	21.7	366	2	Q6ZHP9
24	362.5	21.6	348	2	Q9Z0H7
25	362	21.5	324	2	Q97397
26	360	21.4	311	2	Q9GRW6
27	358	21.3	221	2	Q95B04
28	357.5	21.3	462	2	Q93X09
29	357.5	21.3	322	1	CYSI_HOMAM
30	357.5	21.3	343	2	Q6Y1E4
31	357.5	21.3	343	2	Q6Y1E7

32	357	21.2	326	2	Q9NGM4	Q9ngw4 fasciola gi
33	356.5	21.2	342	2	Q41721	Q41721 zinnia eleg
34	355.5	21.2	324	2	Q6LBER7	Q6lber7 nephrops no
35	354	21.1	326	2	Q9XTL8	Q9xtl8 fasciola gi
36	353.5	21.0	348	1	PAP3_CARPA	P10056 carica papa
37	353	21.0	326	2	Q8MUT6	Q8mut6 fasciola gi
38	353	21.0	345	2	Q86GZ3	Q86gz3 rhinoceros
39	353	21.0	351	2	Q6Y1E9	Q6y1e9 trifolium r
40	353	21.0	381	2	Q9GQW6	Q9gqw6 leishmania
41	352.5	21.0	326	2	Q9NGM3	Q9ngw3 fasciola gi
42	352	21.0	326	2	Q24940	Q24940 fasciola he
43	352	21.0	393	2	Q6B7B4	Q6b7b4 brugia mala
44	351.5	20.9	460	2	Q7XYU7	Q7xyu7 anthurium a
45	351	20.9	352	2	Q84W26	Q84w26 helianthus

ALIGNMENTS

RESULT 1
ID MMAL_DERPT STANDARD; PRT; 320 AA.
AC P08176; Q24616;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1995 (Rel. 31, Last sequence update)
DT 25-OCT-2004 (Rel. 45, Last annotation update)
DE Major mite fecal allergen Der p 1 precursor (EC 3.4.22.-) (Der p I).
GN Name=DERP1;
OS Dermatophagoides pteronyssinus (House-dust mite).
OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
OC Pyroglyphidae; Dermatophagoides.
OX NCBI_TaxID=6956;
RN [1]
RP SEQUENCE FROM N.A., AND POLYMORPHISM.
RX MEDLINE=8089411; PubMed=8335830;
RA Chua K.Y., Stewart G.A., Thomas W.R., Simpson R.J., Dilworth R.J.,
RT "Cloning and expression of DNA coding for the major house dust mite
RT allergen, Der p 1. Homology with cysteine proteases.";
RL J. Exp. Med. 167:175-182(1988).
RN [3]
RP SEQUENCE OF 81-176 FROM N.A.
RX MEDLINE=88114080; PubMed=3276629;
RA Thomas W.R., Stewart G.A., Simpson R.J., Chua K.Y., Plozza T.M.,
RT "Cloning and expression of DNA coding for the major house dust mite
RT allergen, Der p 1 in Escherichia coli.";
RL Int. Arch. Allergy Appl. Immunol. 85:127-129(1988).
RN [4]
RP REVISIONS TO 232-241.
RX MEDLINE=9125493; PubMed=2021874;
RA Dilworth R.J., Chua K.Y., Thomas W.R.,
RT "Sequence analysis of cDNA coding for a major house dust mite
RT allergen, Der f 1.";
RL Clin. Exp. Allergy 21:25-32(1991).
RN [5]
RP SEQUENCE OF 99-308 FROM N.A.
RX MEDLINE=93130112; PubMed=1483062;
RA Kent N.A., Hill M.R., Keen J.N., Holland P.W., Hart B.J.,
RT "Molecular characterisation of group I allergen Eur m I from house
RT dust mite Euroglyphus maynei.";
RL Int. Arch. Allergy Immunol. 99:150-152(1992).
RP SEQUENCE OF 99-127.
RX MEDLINE=88229138; PubMed=3372999;

RA Lind P., Hansen O.C., Horn N.;
 RT "The binding of mouse hybridoma and human IgG antibodies to the major
 RT fecal allergen, Der p 1, of Dermatophagoides pteronyssinus. Relative
 RT binding site location and species specificity studied by solid-phase
 RT inhibition assays with radiolabeled antigen";
 RT J. Immunol. 140:4256-4262(1988).
 RN [1]
 RN SEQUENCE OF 99-139, 177-192, 208-224 AND 260-277, AND VARIANT ALA-222.
 RP PubMed=2911558;
 RX Simpson R.J., Nice E.C., Moritz R.L., Stewart G.A.;
 RA "Structural studies on the allergen Der p1 from the house dust mite
 RT Dermatophagoides pteronyssinus: similarity with cysteine
 RT proteinases";
 RT Protein Seq. Data Anal. 2:17-21(1989).
 RN [8]
 RN 3D-STRUCTURE MODELING.
 RP MEDLINE=95062135; PubMed=7971950;
 RX Topham C.M., Srinivasan N., Thorpe C.J., Overington J.P.,
 RA Kalsheker N.A.;
 RT "Comparative modelling of major house dust mite allergen Der p 1:
 RT structure validation using an extended environmental amino acid
 RT propensity table";
 RT Protein Eng. 7:869-894(1994).
 RL -1- FUNCTION: Thiol protease that hydrolyzes proteins, with a
 CC preference for Phe or basic residues.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- ALLERGEN: Causes an allergic reaction in human. Common symptoms of
 CC mite allergy are bronchial asthma, allergic rhinitis and
 CC conjunctivitis. Reacts with IgE in 80% of patients with house dust
 CC allergy.
 CC -1- SIMILARITY: Belongs to the peptidase C1 family.
 CC -----
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 CC -----
 CC EMBL; U11695; AAB60215.1; -;
 DR EMBL; M24794; AAA28296.1; ALT_INIT.
 DR EMBL; X65197; CAA46317.1; -;
 DR PIR; J00337; J00337.
 DR HSP; P53634; IK3B.
 DR MEROPS; C01.073; -;
 DR InterPro; IPR000169; Pept. Cys. acsite.
 DR InterPro; IPR000668; Peptidase_C1.
 DR Pfam; PF00112; Peptidase_C1; 1.
 DR PRINTS; PR00705; PAPA1N.
 DR PRODOM; PD000156; Peptidase_C1; 1.
 DR SMART; SM00645; Pept_C1; 1.
 DR PROSITE; PS00640; THIOI_PROTEASE_ASN; 1.
 DR PROSITE; PS00139; THIOI_PROTEASE_CYS; 1.
 DR PROSITE; PS00639; THIOI_PROTEASE_HIS; 1.
 KW Allergen; Direct protein sequencing; Glycoprotein; Hydrolase;
 KW Polymorphism; Signal; Thiol protease; Zymogen.
 FT SIGNAL 1 18 Potential.
 FT PROPEP 1 98 Activation peptide.
 FT CHAIN 99 320 Major mite fecal allergen Der p 1.
 FT CARBOHD 150 150 N-linked (GlcNAc...) (Potential).
 FT ACT_SITE 132 132 By similarity.
 FT ACT_SITE 268 268 By similarity.
 FT ACT_SITE 288 288 By similarity.
 FT DISULFD 102 215 By similarity.
 FT DISULFD 129 169 By similarity.
 FT DISULFD 163 201 By similarity.
 FT VARIANT 148 148 Y -> H.
 FT VARIANT 179 179 E -> K.
 FT VARIANT 222 222 V -> A.
 FT VARIANT 234 234 S -> T.
 FT VARIANT 313 313 E -> Q.
 SQ SEQUENCE 320 AA; 36104 MW; AOB1FAD09791DFE CRC64;

Query Match 99.4%; Score 1670; DB 1; Length 320;
 Best Local Similarity 99.4%; Pred. No. 2,9e-122;
 Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 MKIVLAISLALSAVYAPSSIKTFEEYKKAFNKSVATFEDEARQNFLESVKYQSN 60
 DB 1 MKIVLAISLALSAVYAPSSIKTFEEYKKAFNKSVATFEDEARQNFLESVKYQSN 60
 QY 61 GGAINHLSPSLDERKQNFLEAEAEPEHLKTPQFDIAETNACISNGNPAETDLQMPDV 120
 DB 61 GGAINHLSPSLDERKQNFLEAEAEPEHLKTPQFDIAETNACISNGNPAETDLQMPDV 120
 QY 121 TPIRMQGGGSAFSGVATESAVIAYRQSLDAEQLVDCASQHGCGPTIRGLEY 180
 DB 121 TPIRMQGGGSAFSGVATESAVIAYRQSLDAEQLVDCASQHGCGPTIRGLEY 180
 QY 181 IGHNGVQESYRYRYAREQSCRRPNAQRFGISNYCQIYPPNVNKTRELAQTHSAIAYII 240
 DB 181 IGHNGVQESYRYRYAREQSCRRPNAQRFGISNYCQIYPPNVNKTRELAQTHSAIAYII 240
 QY 241 GKIDLPAPHYDGRITIQDNGYQPNYAVNIVGYSNQGVDYIVTNSMDTNMGDNGYG 300
 DB 241 GKIDLPAPHYDGRITIQDNGYQPNYAVNIVGYSNQGVDYIVTNSMDTNMGDNGYG 300
 QY 301 YFANIDLMWIEPYVIL 320
 DB 301 YFANIDLMWIEPYVIL 320
 RESULT 2
 ID EURL_EURMA STANDARD; PRT; 321 AA.
 AC P25780; O9TZZ3; O9TZZ4; O9UBA0;
 DT 01-MAY-1992 (Rel. 22, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 25-OCT-2004 (Rel. 45, Last annotation update)
 DE Mite group 1 allergen Eur m 1 precursor (EC 3.4.22.-) (Eur m I).
 GN Name=EURL;
 OS Euroglyphus maynei (Mayne's house dust mite).
 OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
 OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
 OC Pyroglyphidae; Euroglyphus.
 OC NCBI_TaxID=6958;
 RX MEDLINE=99126275; PubMed=9925958; DOI=10.1159/000024026;
 RA Smith W., Mills K., Hazell U., Hart B.J., Thomas W.;
 RT "Molecular analysis of the group 1 and 2 allergens from the house dust
 RT mite, Euroglyphus maynei";
 RT Int. Arch. Allergy Immunol. 118:15-22(1999).
 RN [2]
 RN SEQUENCE OF 99-309 FROM N.A.
 RX MEDLINE=9310112; PubMed=1483062;
 RA Kent N.A., Hill M.R., Keen J.N., Holland P.W., Hart B.J.;
 RT "Molecular characterisation of group I allergen Eur m I from house
 RT dust mite Euroglyphus maynei";
 RT Int. Arch. Allergy Immunol. 99:150-152(1992).
 RL -1- FUNCTION: Probable thiol protease.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- ALLERGEN: Causes an allergic reaction in human. Common symptoms of
 CC mite allergy are bronchial asthma, allergic rhinitis and
 CC conjunctivitis.
 CC -1- SIMILARITY: Belongs to the peptidase C1 family.
 CC -----
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DR EMBL: AF047610; AAC82351.1; -
 DR EMBL: AF047611; AAC82352.1; ALT_INIT.
 DR EMBL: AF047612; AAC82353.1; -
 DR EMBL: X60073; CAA42677.1; -
 DR PIR: S21864; S21864.
 DR HSSP: P53634; 1K3B.
 DR MEROPS: C01.073; -
 DR InterPro: IPR000169; Pept. Cys acsile.
 DR InterPro: IPR000668; Peptidase_C1.
 DR Pfam: PPO0112; Peptidase_C1; 1.
 DR PRINTS: PR00705; PAPA1N.
 DR ProDom: PD000158; Peptidase_C1; 1.
 DR SMART: SM00645; Pept. C1; 1.
 DR PROSITE: PS00640; THIOI_PROTEASE ASN; 1.
 DR PROSITE: PS00139; THIOI_PROTEASE_CYS; 1.
 DR PROSITE: PS00639; THIOI_PROTEASE_HIS; 1.
 DR Allergen: Glycoprotein; Hydrolyase; Signal; Thiol protease; Zymogen.
 KW SIGNAL 1 18 Potential.
 FT PROPEP 19 98
 FT CHAIN 99 321 Mite group 1 allergen Eur m 1.
 FT ACT_SITE 133 133 By similarity.
 FT ACT_SITE 269 269 By similarity.
 FT ACT_SITE 289 289 By similarity.
 FT DISULFID 130 170 By similarity.
 FT CARBOHYD 34 34 N-linked (GlcNAc...) (Potential).
 FT CARBOHYD 151 151 N-linked (GlcNAc...) (Potential).
 FT VARIANT 36 36 T -> S (in Eur m 1.0102).
 FT VARIANT 126 126 M -> N (in Eur m 1.0102).
 FT VARIANT 320 320 M -> I (in Eur m 1.0102).
 SQ SEQUENCE 321 AA; 36290 MW; 6CFD44FEC725999E CRC64;

Query Match 85.4%; Score 1434.5; DB 1; Length 321;
 Best Local Similarity 83.8%; Pred. No. 7.2e-104;

Matches 269; Conservative 25; Mismatches 26; Indels 1; Gaps 1;

QY 1 MKIVLAISLALSAVYARPSIKTFEEBKAFNKSVAFFEDBARKNFLSVKYQSN 60
 DB 1 MKIILAIASLVLSTVYARPSIKTFEEBKAFNKNYARPEKEVARKNFLSLKVEAN 60
 QY 61 GGAINHLSPSLDDEFNRFILMSAEPEHLKTOFDLNAETNACISNG-NAPADIDLRQMT 119
 DB 61 KCAINHLSPSLDDEFNRFILMSAEPEHLKTOFDLNAETNACISNG-NAPADIDLRQMT 120
 QY 120 VPIRMGGCCSAMFSGVAATESATLAVRNOSLDIAEQLVDCAQONCHGDTTPRGIE 179
 DB 121 VPIRMGGCCSAMFSGVAATESATLAVRNOSLDIAEQLVDCAQONCHGDTTPRGIE 180
 QY 180 YIQHNGVQESYRYVARBQSCRRPNAQRFGISNYCOIYPPVWNKIRALAQTHSAIAYI 239
 DB 181 YIQHNGVQEHYRYVARBQSCRRPNAQRFGISNYCOIYPPVWNKIRALAQTHSAIAYI 240
 QY 240 IGIKDLAFRHYDGTITIRDNQYQPNYAVNIVGYSNAQGVYDVTWRNSWDTNWGDNGY 299
 DB 241 IGIKDLAFRHYDGTITIRDNQYQPNYAVNIVGYSNAQGVYDVTWRNSWDTNWGDNGY 300
 QY 300 GYFAANIDIMTEEYVYVIL 320
 DB 301 GYFAANIDIMTEEYVYVIL 321

RESULT 3
 ID MMAL_DERFA STANDARD; PRT; 321 AA.
 AC P16311;
 DT 01-AUG-1990 (rel. 15, Created)
 DT 01-FEB-1995 (rel. 31, Last sequence update)
 DT 25-OCT-2004 (rel. 45, Last annotation update)
 DE Major mite fecal allergen Der f 1 precursor (EC 3.4.22.-) (Der f I).
 GN Name=DERF1.
 OS Dermatophagoides farinae (House-dust mite).
 OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
 OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
 OC Pyroglyphidae; Dermatophagoides.

OX NCBI_TaxID=6954;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91215493; PubMed=2021874;
 RA Dilworth R.J., Chua K.Y., Thomas W.R.;
 RT "Sequence analysis of cDNA coding for a major house dust mite
 RT allergen, Der f I.";
 RL Clin. Exp. Allergy 21:25-32(1991).
 RN [2]
 RP SEQUENCE OF 98-309 FROM N.A.
 RA Kent N., Hill M.R., Keen J.N., Holland P.W., Hart B.U.;
 RL Submitted (MAR-1992) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE OF 99-128.
 RX MEDLINE=88229138; PubMed=3372999;
 RA Lind P., Hansen O.C., Horn N.;
 RT "The binding of mouse hybridoma and human IgE antibodies to the major
 RT fecal allergen, Der p 1, of Dermatophagoides pteronyssinus. Relative
 RT binding site location and species specificity studied by solid-phase
 RT inhibition assays with radiolabeled antigen.";
 RL J. Immunol. 140:4256-4262(1988).
 CC -1- FUNCTION: Thiol protease that hydrolyzes proteins, with a
 CC preference for Phe or basic residues.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- ALLERGEN: Causes an allergic reaction in human. Common symptoms of
 CC mite allergy are bronchial asthma, allergic rhinitis and
 CC conjunctivitis.
 CC -1- SIMILARITY: Belongs to the peptidase C1 family.
 CC
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 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL: X65196; CAA46316.1; -
 DR PIR: A27634; A27634.
 DR HSSP: P53634; 1K3B.
 DR MEROPS: C01.073; -
 DR InterPro: IPR000169; Pept. Cys acsile.
 DR InterPro: IPR000668; Peptidase_C1.
 DR Pfam: PPO0112; Peptidase_C1; 1.
 DR PRINTS: PR00705; PAPA1N.
 DR ProDom: PD000158; Peptidase_C1; 1.
 DR SMART: SM00645; Pept. C1; 1.
 DR PROSITE: PS00640; THIOI_PROTEASE ASN; 1.
 DR PROSITE: PS00139; THIOI_PROTEASE_CYS; 1.
 DR PROSITE: PS00639; THIOI_PROTEASE_HIS; 1.
 KW Allergen; Direct protein sequencing; Glycoprotein; Hydrolyase; Signal;
 KW Thiol protease; Zymogen.
 FT SIGNAL 1 18 Potential.
 FT PROPEP 19 98 Activation peptide.
 FT CHAIN 99 321 Major mite fecal allergen Der f 1.
 FT ACT_SITE 133 133 By similarity.
 FT ACT_SITE 269 269 By similarity.
 FT ACT_SITE 288 288 By similarity.
 FT CARBOHYD 151 151 N-linked (GlcNAc...) (Potential).
 FT DISULFID 102 216 By similarity.
 FT DISULFID 130 170 By similarity.
 FT DISULFID 164 202 By similarity.
 FT CONFLICT 201 201 R -> Q (in Ref. 2).
 FT CONFLICT 282 282 D -> V (in Ref. 2).
 SQ SEQUENCE 321 AA; 36435 MW; 04523B54EBB476B CRC64;

Query Match 83.7%; Score 1406.5; DB 1; Length 321;
 Best Local Similarity 82.2%; Pred. No. 1.1e-101;

Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;

QY 1 MKIVLAISLALSAVYARPSIKTFEEBKAFNKSVAFFEDBARKNFLSVKYQSN 60
 DB 1 MKIILAIASLVLSTVYARPSIKTFEEBKAFNKNYARPEKEVARKNFLSLKVEAN 60

QY 61 GGAINHLSLSDLEFNRFLMSAEAEHLKTQFDLNAETNACISNG-NAPAEIDLROMT 119
 DB 61 KGAINHLSLSDLEFNRFLMSAEAEHLKTQFDLNAETNACISNG-NAPAEIDLROMT 120
 QY 120 VPEIRMOGGGSGAMAFSGVATSAVLAAYRNOSLDAEOELVDCASOHGCHGTIPRGIE 179
 DB 121 VPEIRMOGGGSGAMAFSGVATSAVLAAYRNOSLDAEOELVDCASOHGCHGTIPRGIE 180
 QY 180 YIONGVQESYRYRYAREGSCRRPNAQRFGISNYCOIYPNNKIREALAQTHSAIAVI 239
 DB 181 YIONGVQESYRYRYAREGSCRRPNAQRFGISNYCOIYPNNKIREALAQTHSAIAVI 240
 QY 240 IGKIDLAFPHYGRITTIQNDNGYQPNYAVNIVGSMAGVYVTVRNSMDTNMGDNGY 299
 DB 241 IGKIDLAFPHYGRITTIQNDNGYQPNYAVNIVGSMAGVYVTVRNSMDTNMGDNGY 300
 QY 300 GFPAANIDLMMIEEYPPVIL 320
 DB 301 GFPAANIDLMMIEEYPPVIL 321

RESULT 4

Q9GYO PRELIMINARY; PRT; 210 AA.
 AC Q9GYO; 01-MAR-2001 (TEMBLrel. 16, Created)
 DT 01-MAR-2001 (TEMBLrel. 16, Last sequence update)
 DE Allergen Der fi (Fragment).
 OS Dermatophagoides farinae (House-dust mite).
 OC Acari: Metazoa: Arthropoda: Chelicerata: Arachnida: Acari:
 OC Acari: Sarcophiles; Astigmata; Psoroptida; Analgoidea;
 OC Pyroglyphidae; Dermatophagoides.
 NCBI_TaxID=6954;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Hao M.Q., Xu J., Zhong N.S.;
 RL Submitted (JUL-2000) to the EMBL/GenBank/DBJ databases.
 CC -1- SIMILARITY: Belongs to peptidase family C1.
 DR EMBL; AF285763; AAC00520.1; -.
 DR PIR; A27634; A27634.
 DR HSSP; P80067; 1JQP.
 DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
 DR GO; GO:0006588; P:proteolysis and peptidolysis; IEA.
 DR InterPro; IPR000668; Peptidase_C1.
 DR InterPro; IPR000169; Pept_cys_acsite.
 DR Pfam; PF00112; Peptidase_C1; 1.
 DR PRINTS; PR00705; PAPAIA.
 DR SMART; SM00645; Pept C1; 1.
 DR PROSITE; PS00640; THIOL_PROTEASE ASN. 1.
 DR PROSITE; PS00139; THIOL_PROTEASE CYS. 1.
 DR PROSITE; PS00639; THIOL_PROTEASE HIS; UNKNOWN. 1.
 KM Hydrolyase; Protease; Thiol protease.
 FT NON_TER 1
 FT NON_TER 210
 SQ SEQUENCE 210 AA; 23548 MW; BA08029D642EB90 CRC64;

Query Match 55.6%; Score 934.5; DB 2; Length 210;
 Best Local Similarity 81.4%; Pred. No. 5, 1e-65;
 Matches 171; Conservative 15; Mismatches 23; Indels 1; Gaps 1;

QY 100 NACISNG-NAPAEIDLROMTVPPIRMOGGSGAMAFSGVATSAVLAAYRNOSLDAEO 156
 DB 1 SACRINSVNVSESLDLSLRTVTPIRMOGGGSGAMAFSGVATSAVLAAYRNOSLDAEO 60
 QY 159 ELVDCASOHGCHGTIPRGIEYIONGVQESYRYRYAREGSCRRPNAQRFGISNYCOIY 218
 DB 61 ELVDCASOHGCHGTIPRGIEYIONGVQESYRYRYAREGSCRRPNAQRFGISNYCOIY 120
 QY 219 PPNVKIREALAQTHSAIAVIIGKIDLAFPHYGRITTIQNDNGYQPNYAVNIVGSMAG 278
 DB 121 PPNVKIREALAQTHSAIAVIIGKIDLAFPHYGRITTIQNDNGYQPNYAVNIVGSMAG 180

QY 279 OGVDYIVRNSMDTNMGDNGYGFPAANIDL 308
 DB 181 OGVDYIVRNSMDTNMGDNGYGFPAANIDL 210

RESULT 5

Q819P1 PRELIMINARY; PRT; 263 AA.
 ID Q819P1; 01-MAR-2003 (TEMBLrel. 23, Created)
 DT 01-MAR-2003 (TEMBLrel. 23, Last sequence update)
 DE Dero antigen (Fragment).
 OS Psoroptes ovis (Sheep scab mite).
 OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari:
 OC Acari: Sarcophiles; Astigmata; Psoroptida; Sarcophiles;
 OC Psoroptidae; Psoroptes.
 NCBI_TaxID=83912;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=22294898; PubMed=12406195;
 RA Lee A.U., Machell J., Van Den Broek A.H.M., Nisbet A.U.,
 RA Miller H.R.P., Isaac R.B., Huntley J.F.;
 RT "Identification of an antigen from the sheep scab mite, Psoroptes
 RT ovis, homologous with house dust mite group I allergens.";
 RL Parasite Immunol. 24:413-422 (2002).
 DR EMBL; AF495854; AMO14671.1; -.
 DR HSSP; P14080; 1YAL.
 DR MEROPS; C01.073; -.
 DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
 DR GO; GO:0006588; P:proteolysis and peptidolysis; IEA.
 DR InterPro; IPR000668; Peptidase_C1.
 DR InterPro; IPR000169; Pept_cys_acsite.
 DR Pfam; PF00112; Peptidase_C1; 1.
 DR ProDom; PD000158; Peptidase_C1.
 DR SMART; SM00645; Pept_C1; 1.
 DR PROSITE; PS00139; THIOL_PROTEASE_CYS; 1.
 FT NON_TER 1
 FT NON_TER 263
 SQ SEQUENCE 263 AA; 29576 MW; BF6DD21006DAB5B0 CRC64;

Query Match 49.4%; Score 830; DB 2; Length 263;
 Best Local Similarity 61.6%; Pred. No. 9, 7e-57;
 Matches 162; Conservative 38; Mismatches 61; Indels 2; Gaps 2;

QY 13 LSAVYARPSISIKTFEEYKKAFFKSYATFEDEARKNLEESVKYQNSG-GAINHLSLSDS 71
 DB 1 LSAVYARPSISIKTFEEYKKAFFKSYATFEDEARKNLEESVKYQNSG-GAINHLSLSDS 60
 QY 72 LDEFKRFMSAFAFHLKTQFDLNAETNACISNG-NAPAEIDLROMTVPPIRMOGGSG 130
 DB 61 LDEFKRFMSAFAFHLKTQFDLNAETNACISNG-NAPAEIDLROMTVPPIRMOGGSG 120
 QY 131 SAAVSGVATSAVLAAYRNOSLDAEOELVDCASOHGCHGTIPRGIEYIONGVQES 190
 DB 121 SAAVSGVATSAVLAAYRNOSLDAEOELVDCASOHGCHGTIPRGIEYIONGVQES 180
 QY 191 YRYVAREGSCRRPNAQRFGISNYCOIYPNNKIREALAQTHSAIAVIIGKIDLAFPH 250
 DB 181 YRYVAREGSCRRPNAQRFGISNYCOIYPNNKIREALAQTHSAIAVIIGKIDLAFPH 240
 QY 251 YDGRITTIQNDNGYQPNYAVNIV 273
 DB 241 YDGRITTIQNDNGYQPNYAVNIV 263

RESULT 6

Q95X05 PRELIMINARY; PRT; 146 AA.
 ID Q95X05; 01-DEC-2001 (TEMBLrel. 19, Created)
 DT 01-DEC-2001 (TEMBLrel. 19, Last sequence update)

DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE Cysteine proteinase (Fragment).
GN Name=CPW2;
OS Dermatophagoides farinae (House-dust mite).
OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
OC Pyroglyphidae; Dermatophagoides.
OX NCBI_TaxID=6954;
RN [1]
RP SEQUENCE FROM N.A.
RA Park H., Park S.Y., Kim K.Y., Park S.K., Yun H.C.;
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF194431; AAL14424.1; -.
DR HSSP; P43235; 1BY8.
DR GO; GO:0008234; F:cysteine-type peptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000668; Peptidase_C1.
DR Pfam; PF00112; Peptidase_C1; 1.
FT NON TER 1 146 146
SQ SEQUENCE 146 AA; 16852 MW; BB304800946D4047 CRC64;

Query Match 36.1%; Score 606; DB 2; Length 146;
Best Local Similarity 85.0%; Pred. No. 1.5e-39;
Matches 113; Conservative 8; Mismatches 12; Indels 0; Gaps 0;

QY 137 GVAATSAIAYNOSLDLAEOELVDCASQHGCHGDTIPRGIEYIOHNGVQSYRYVA 196
DB 1 GVAATSAIAYNNTSLDSEQLVDCASQHGCHGDTIPRGIEYIOHNGVERSYRYVA 60
QY 197 REOSCRPNARQPGISNYCOIYPPNPKIREALQTHSAIYVIGIKDLAFRHYDGRIT 256
DB 61 REQCCRRPSQHGHSINYCOIYPPDVQKQIREALTQHTAIYVIGIKDLAFRHYDGRIT 120
QY 257 IQRDNGYQPNYVA 269
DB 121 IQHDNGYQPNYVA 133

RESULT 7
QY 095X04 PRELIMINARY; PRT; 107 AA.
AC 095X04;
DT 01-DEC-2001 (T-EMBLrel. 19, Created)
DT 01-DEC-2001 (T-EMBLrel. 19, Last sequence update)
DT 01-MAR-2004 (T-EMBLrel. 26, Last annotation update)
DE Cysteine proteinase (Fragment).
GN Name=CPW3;
OS Dermatophagoides farinae (House-dust mite).
OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
OC Pyroglyphidae; Dermatophagoides.
OX NCBI_TaxID=6954;
RN [1]
RP SEQUENCE FROM N.A.
RA Park H., Park S.Y., Kim K.Y., Park S.K., Yun H.C.;
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF194432; AAL14425.1; -.
DR InterPro; IPR000169; Pept_cys_acatse.
DR PROSITE; PS00639; THIOI_PROTEASE_HIS; UNKNOWN_1.
FT NON TER 1 107 107
SQ SEQUENCE 107 AA; 12277 MW; A80E7876CBA6F97A CRC64;

Query Match 27.6%; Score 463; DB 2; Length 107;
Best Local Similarity 80.4%; Pred. No. 1.6e-28;
Matches 86; Conservative 8; Mismatches 13; Indels 0; Gaps 0;

QY 175 PRGIEYIOHNGVQSYRYVAEOSCRPNARQPGISNYCOIYPPNPKIREALQTHS 234
DB 1 PRGIEYIOHNGVERSYRYVAEQQCRNSQHGHSINYCOIYPPDVQKQIREALTQHT 60
QY 235 AIAVIGIKDLAFRHYDGRITIQRDNGYQPNYVAANVIGYSNAQGV 281

DB 61 AIAVIGIKDLAFRHYDGRITIQRDNGYQPNYVAANVIGYSTQGV 107

RESULT 8
QY 0968Y3 PRELIMINARY; PRT; 133 AA.
AC 0968Y3;
DT 01-DEC-2001 (T-EMBLrel. 19, Created)
DT 01-DEC-2001 (T-EMBLrel. 19, Last sequence update)
DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE Cysteine proteinase (Fragment).
OS Dermatophagoides pteronyssinus (House-dust mite).
OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
OC Pyroglyphidae; Dermatophagoides.
OX NCBI_TaxID=6956;
RN [1]
RP SEQUENCE FROM N.A.
RA Park H., Yun H.C., Kim K.Y., Park S.Y., Park S.K.;
RL Submitted (APR-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF145247; AAK38773.1; -.
DR HSSP; P60994; 11WD.
DR MEROPS; COI.073; -.
DR GO; GO:0008234; F:cysteine-type peptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000668; Peptidase_C1.
DR Pfam; PF00112; Peptidase_C1; 1.
FT NON TER 1 133 133
SQ SEQUENCE 133 AA; 14965 MW; 5033C26B15E68B9C CRC64;

Query Match 26.0%; Score 436; DB 2; Length 133;
Best Local Similarity 61.4%; Pred. No. 2.6e-26;
Matches 81; Conservative 18; Mismatches 33; Indels 0; Gaps 0;

QY 129 CGSAMFSGVAATESAYLAENOSLDLAEOELVDCASQHGCHGDTIPRGIEYIOHNGVQ 188
DB 1 CGSAMFAGVAATESAYLAENQSTINLAEOELVDCARQHGCHGDTIPRLDITQNGIVE 60
QY 189 ESYRYRYVAEOSCRPNARQPGISNYCOIYPPNPKIREALQTHSAIYVIGIKDLAF 248
DB 61 EDAVEYNARENCEPENRHSIEGQIDHSNVELIKTALDKYSAAVAVIINHINAF 120
QY 249 RHYDGRITIQRD 260
DB 121 RHYDGSYVITTD 132

RESULT 9
QY 07M431 PRELIMINARY; PRT; 94 AA.
AC 07M431;
DT 01-MAR-2004 (T-EMBLrel. 26, Created)
DT 01-MAR-2004 (T-EMBLrel. 26, Last sequence update)
DT 01-MAR-2004 (T-EMBLrel. 26, Last annotation update)
DE Major fecal allergen Der p 1 (Fragments).
OS Dermatophagoides pteronyssinus (House-dust mite).
OC Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Acari;
OC Acariformes; Sarcopitiformes; Astigmata; Psoroptidia; Analgoidea;
OC Pyroglyphidae; Dermatophagoides.
OX NCBI_TaxID=6956;
RN [1]
RP SEQUENCE.
RA MEDLINE=89098855; PubMed=2911558;
RA Simpson R.J., Nice B.C., Moritz R.L., Stewart G.A.;
RT "Structural studies on the allergen Der p1 from the house dust mite
RT Dermatophagoides pteronyssinus: similarity with cysteine
RT proteinases."; Data Anal. 2:17-21(1989).
RL Protein Seq. Data Anal. 2:17-21(1989).
DR PIR; S03380; S03380.
DR GO; GO:0008234; F:cysteine-type peptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.

DR InterPro; IPR000668; Peptidase_C1.
DR ProDom; PD000158; Peptidase_C1; 1.
FT NON TER 1
FT NON TER 94
SQ SEQUENCE 94 AA; 10327 MW; 98F744165C8428A8 CRC64;

Query Match 23.1%; Score 388.5; DB 2; Length 94;
Best Local Similarity 48.1%; Pred. No. 8.8e-23;
Matches 87; Conservative 0; Mismatches 5; Indels 89; Gaps 4;

QY 99 TNACSTNGNAPAFIDIRKMTVTPIR--MQGCGSAMAFSGVATSAVLAYRNSQSLDA 156
DB 1 TNACSTNGNAPAFIDIRKMTVTPIR--MQGCGSAMAFSGVATSAVLAYRNSQSLDA 43
QY 157 EDELVDCAQGHGCHDTIPRGIETVQHNGVQESYRYVARBQSCRPNAQRFGISNYCQ 216
DB 44 -----GIEYIQHNGVQESY-----RFGISNYCQ 68
QY 217 IYPPNVNKKREALAQHTSAIAVIGIKMDLAFRHYORTIQRDNGYQPYAAVNIYGS 276
DB 69 IYPPNANK-----DNGYQPYAAVNIYGTX 93
QY 277 N 277
DB 94 N 94

RESULT 10
Q6QXF0 PRELIMINARY; PRT; 327 AA.

AC O6QXF0;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE ORF31.
GN Name=ORF31, cathepsin; ORFNames=Agv031;
OS Agrotis segetum granulosis virus (AgSV) (Agrotis segetum
OS granulovirus).
OC Viruses; dsDNA viruses, no RNA stage; Baculoviridae; Granulovirus.
NCBI_TaxID=10464;
NM (1)
NM SEQUENCE FROM N.A.
RP Shanghai GeneCore Biotechnology Ltd;
RG Xialian A., Zhifang W., Bo W., Wei Z., Jianhong F., Chunsheng C.,
RA Yun S., Mei H.,
RT "Agrotis segetum Granulosis Virus complete genome."
RL Submitted (MAR-2004) to the EMBL/Genbank/DBJ databases.
RN (2)
RN SEQUENCE FROM N.A.
RP Shanghai GeneCore Biotechnology Ltd;
RG Xialian A., Zhifang W., Bo W., Wei Z., Jianhong F., Chunsheng C.,
RA Yun S., Mei H.,
RT post-harvest senescence of broccoli florets."
RL Submitted (APR-2004) to the EMBL/Genbank/DBJ databases.
RN (3)
RN SEQUENCE FROM N.A.
RP Shanghai GeneCore Biotechnology Ltd;
RG Xialian A., Zhifang W., Bo W., Wei Z., Jianhong F., Chunsheng C.,
RA Yun S., Mei H.,
RT "Identification of dehydration-responsive cysteine proteases during
post-harvest senescence of broccoli florets."
RL J. Exp. Bot. 54:1045-1056(2003).
CC -1- SIMILARITY: Belongs to peptidase family C1.
DR EMBL; AY523332; AAS82707.1; -.
DR HSSP; P25779; IAIM.
DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000668; Peptidase_C1.
DR InterPro; IPR000169; Pept_cys_acsite.
DR Pfam; PF00112; Peptidase_C1; 1.
DR PRINTS; PR00705; PAPAIN.
DR ProDom; PD000158; Peptidase_C1; 1.
DR SMART; SM00645; Pept_C1; 1.
DR PROSITE; PS00640; TH10L_PROTEASE ASN; 1.
DR PROSITE; PS00139; TH10L_PROTEASE CYS; 1.
DR PROSITE; PS00639; TH10L_PROTEASE_HIS; 1.

KW Hydrolase; Protease; Thiol protease.
SQ SEQUENCE 327 AA; 37418 MW; 92909C492717B27F CRC64;

Query Match 22.9%; Score 384; DB 2; Length 327;
Best Local Similarity 33.3%; Pred. No. 8.9e-22;
Matches 110; Conservative 53; Mismatches 15; Indels 32; Gaps 15;

QY 11 LALSAYVARPSIKFEEYKCAFNFYSYATFEDEARAKNFLESYKYO-----SNGA-- 63
DB 10 LVQGLNINLNSKLFPEFVQKIKYSSEBERQKPFNFKNIRSIKNSLSNAYVD 69
QY 64 INHLSDLDEPKNFILMSAAFE--HUKTQPDL--NAETNACSTNG--AAPAIDLR 115
DB 70 INFYSDMN-----KNELLRQTFKINLKNKMLDLSWNTCKRKKLINGPAVLIPDSFDMR 125
QY 116 QKRVTPIRMQCGSAMAFSGVATSAVLAYRNSQSLDAEDELVDCAQ--HGCHGDTI 174
DB 126 DHRVTSYKNQDCSCWAFSTIANISLVAKTKKLLDLSEQLVNCDEQNGNGSLM 185
QY 175 PRGI--EYIQHNGVQESYRYVARBQSCRPNAQRFGISNYC--QIYPPNVNKKREALAQ 232
DB 186 HWAMEEIIHQGVSNETDPPYASDGFCK--KQGFVNINGCNQFILSNEDRLRELL--F 242
QY 233 HSAIAVIGIKMDLAFRHYDG--RTIQRDNGYQPYAAVNIYGSNAGVYWTIRNSMD 291
DB 243 NGPISIAIDV--IDVIDYSQGISSTCRNDNGLN--HAVLVGVGNKNTPIWILKNSWG 297
QY 292 TNMGNGYGFANIDLM--MIEEYFYVIL 320
DB 298 SQWENGFRVVRNINSGMINDYASAIL 327

RESULT 11
Q6W182 PRELIMINARY; PRT; 445 AA.

AC Q6W182;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-MAR-2002 (TrEMBLrel. 26, Last annotation update)
DE Senescence-associated cysteine protease (Fragment).
GN Name=Cpl;
OS Brassica oleracea (Cauliflower).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
OC eurosids II; Brassicales; Brassicaceae; Brassica.
NCBI_TaxID=3712;
NM (1)
NM SEQUENCE FROM N.A.
RP MEDLINE=22486809; PubMed=12598574;
RA Coupe S.A., Sinclair B.K., Watson L.M., Heyes J.A., Eason J.R.;
RT "Identification of dehydration-responsive cysteine proteases during
post-harvest senescence of broccoli florets."
RL J. Exp. Bot. 54:1045-1056(2003).
CC -1- SIMILARITY: Belongs to peptidase family C1.
DR EMBL; AF54956; AAL60578.1; -.
DR HSSP; O65039; IS4V.
DR MEROPS; C01.029; -.
DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR Pfam; PF00396; Granulin; 1.
DR PRINTS; PR00112; Peptidase_C1; 1.
DR ProDom; PD000158; Peptidase_C1; 1.
DR SMART; SM00277; GRAN; 1.
DR SMART; SM00645; Pept_C1; 1.
DR PROSITE; PS00640; TH10L_PROTEASE ASN; 1.
DR PROSITE; PS00139; TH10L_PROTEASE CYS; 1.
DR PROSITE; PS00639; TH10L_PROTEASE_HIS; 1.
KW Hydrolase; Protease; Thiol protease.
FT NON TER 1
SQ SEQUENCE 445 AA; 48414 MW; B804371B45C1A1D9 CRC64;
Query Match 22.8%; Score 382.5; DB 2; Length 445;

Best Local Similarity 28.7%; Pred. No. 1.7e-21;
Matches 97; Conservative 69; Mismatches 135; Indels 37; Gaps 11;

QY 3 IYLAISLALSAV--YAPPSIKTFEEYKKAFAKNSYATPEDEBARKNFLSSVKYQSN 60
DB 12 VLAASSISLGVAKADHNRPEEKFERMLVENHKKYNGLGEKDKFEIEMNLKFKVQEH 71
QY 61 GGAIN-----HUSDLSLDEPKRFLMSAEFHLKTQFDLNAETNACISNGNAPAI 112
DB 72 NSVPQSYELGLTRFADLTNEEFRAIYLS---KMERTRDYSKERRYLANVGDKLPDEV 127
QY 113 DLKQRTVPIRMQGGCCSAMAFAFGVAATESAYLAIRNOSLDLAEOELVDCASQH--GCH 170
DB 128 DMRKAGAVPVVDQGGCCSMAFSAIGAVEGINQITGELVLSBELVDCDTSYNNCGG 187
QY 171 GPTIPGIEYIOHNGVQ--ESYRYRYARQS--CR--RPNAQRPGISNYCOIYPPVNVKIR 226
DB 188 GGLMDYAFQFIISNGIDITEEDYPYATADNICNTDKKTRVVTIDGYEDV--PENENSIX 246
QY 227 EALAQTHSAIYIGIKDLDAFRH--YDGRITIIQRNGVQPNYAANIVIGYNAQGVQY 284
DB 247 KLANQPLISVALIAGRGFQLYKGVFTGTCGTALDHG-----VVAVGTSBQDYW 299
QY 285 IYRNSMDTNMGDNGYGFPAANI-----DLMMIEEYP 315
DB 300 IIRNSGWSNGESGYIKQRIKIDSGKGVAMMASYP 337

RESULT 12

086GF7 PRELIMINARY; PRT; 323 AA.

AC 086GF7
DT 01-JUN-2003 (TREMBLrel. 24, Created)
DT 01-JUN-2003 (TREMBLrel. 24, Last sequence update)
DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)
DE Crustapain.
GN Name=PCys;
OS Pandanus borealis (Northern red shrimp).
OC Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
OC Eumalacostraca; Eucarida; Decapoda; Pleocyemata; Caridea; Pandaloidae;
OC Pandalidae; Pandalus.
OC NCBI_Taxid=6703;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Hepatopancreas;
RX MEDLINE=22751659; PubMed=12869537;
RA Aoki H., Ahsan M.N., Watabe S.;
RT "Molecular cloning and functional characterization of crustapain: a
distinct cysteine proteinase with unique substrate specificity from
northern shrimp *Pandalus borealis*.";
RL J. Biochem. 133:799-810(2003).
CC -1 SIMILARITY: Belongs to peptidase family C1.
DR EMBL; AB091669; BAC65417.1; -
DR HSSP; P25774; IMSE.
DR MEROPS; C01.030; -
DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000668; Peptidase_C1.
DR InterPro; IPR000169; Pept_cys_acsite.
DR Pfam; PF00112; Peptidase_C1; 1.
DR PRINTS; PR00705; PAPAIN_
DR ProDom; PD000158; Peptidase_C1; 1.
DR SMART; SM00645; Pept_C1; 1.
DR PROSITE; PS00640; THIOL_PROTEASE_ASN; 1.
DR PROSITE; PS00139; THIOL_PROTEASE_CYS; 1.
DR PROSITE; PS00639; THIOL_PROTEASE_HIS; 1.
KW Hydrolyase; Protease; Thiol protease.
SQ SEQUENCE 323 AA; 35525 MW; 48B083A10AB92BF0 CRC64;

Query Match 22.5%; Score 378; DB 2; Length 323;
Best Local Similarity 32.7%; Pred. No. 2.6e-21;
Matches 112; Conservative 53; Mismatches 117; Indels 60; Gaps 16;

QY 10 ILALSAVYAPPSIKTFEEYKKAFAKNSYATPEDEBARKNFLSSVKYQSN----- 62
DB 8 LIGLAAN-----SALFEMENFKTKRGKTYANSEEBHRMSVFPMDKLFIOEHNERVDKGV 63
QY 63 ----AINHLSLDEPKRFLMSAEFHLKTQFDLNAETNACSI--NGNAP-----AEI 112
DB 64 TYWLKINNFSDLTREEV-----LATKGTMRRRRLPSLPSAPFTPMADAV 110
QY 113 DLKQRTVPIRMQGGCCSAMAFAFGVAATESAYLAIRNOSLDLAEOELVDCASQH--GC 169
DB 111 DMRKAGAVPVVDQGGCCSMAFSAIYALBGAHFLKTGDLVLSQNLVDCSSYGNQGC 170
QY 170 HEDTIPGIEYIOH--GVQESYRYRYARQSCRAPNARFG--ISNYCOIYPPVNVKIR 226
DB 171 NGMPYQAVQYIIARGLIDTESYRYKALIDNCR--DAGNIGATYSSYVERPASGDSALQ 229
QY 227 EALAQTHSAIYIGIKDLDAFRH--YDGRITIIQRNGVQPNYAANIVIGYNAQGVQY 279
DB 230 HAV--QNEGVSVCIDAG--SFGSYGGVY-----YEPNCDSWYANNAVAVGTIDAN 281
QY 280 GVDYWIYRNSMDTNMGDNGYGFPAANI-----LMMIEEYPY 317
DB 282 GGDYWIYRNSGWSNGESGYIKMARNRDNCALATYVYPV 323

RESULT 13

06T857 PRELIMINARY; PRT; 326 AA.

AC 06T857
DT 05-JUL-2004 (TREMBLrel. 27, Created)
DT 05-JUL-2004 (TREMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TREMBLrel. 27, Last annotation update)
DE Cathepsin L.
GN Name=cat-LH;
OS Fasciola gigantica (Giant liver fluke).
OC Eukaryota; Metazoa; Platyhelminthes; Trematoda; Digenea;
OC Echinostomida; Echinostomata; Fascioloidae; Fasciolidae; Fasciola.
OC NCBI_Taxid=46635;
RN [1]
RP SEQUENCE FROM N.A.
RA Meemon K., Grams R., Vichaeri-Grams S., Hofmann A., Korge G.,
RA Vinyant V., Upatham E.S., Sobhon P.;
RL Submitted (OCT-2003) to the EMBL/GenBank/DBJ databases.
CC -1 SIMILARITY: Belongs to peptidase family C1.
DR EMBL; AY428949; AAR08900.1; -
DR HSSP; P43235; IAYU.
DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000668; Peptidase_C1.
DR InterPro; IPR000169; Pept_cys_acsite.
DR Pfam; PF00112; Peptidase_C1; 1.
DR PRINTS; PR00705; PAPAIN_
DR ProDom; PD000158; Peptidase_C1; 1.
DR SMART; SM00645; Pept_C1; 1.
DR PROSITE; PS00640; THIOL_PROTEASE_ASN; 1.
DR PROSITE; PS00139; THIOL_PROTEASE_CYS; 1.
DR PROSITE; PS00639; THIOL_PROTEASE_HIS; UNKNOWN_1.
KW Hydrolyase; Protease; Thiol protease.
SQ SEQUENCE 326 AA; 37085 MW; 90F07DFD1975BC93 CRC64;

Query Match 22.2%; Score 373; DB 2; Length 326;
Best Local Similarity 29.2%; Pred. No. 6.4e-21;
Matches 101; Conservative 61; Mismatches 126; Indels 56; Gaps 13;

QY 4 VLAISLALSAVYAPPSIKTFEEYKKAFAKNSYATPEDEBARKNFLSSVKYQSN----- 61
DB 5 ILALITLF-----GVFA--SNDDLMHEMKVMYNGVGVVD--AHRNINWEVNHKIQEHNH 56
QY 62 -----GAINHLSLDEPKRFLMSAEFHLKTQFDLNAETNACISNGNAP--PA 110
DB 57 RHDLGLVYTYGLNFTMTPEEFRAKYL-----REIPRASDIHSHGIPYRANRAVPE 110
QY 111 EIDLQRTVPIRMQGGCCSAMAFAFGVAATESAYLAIRNOSLDLAEOELVDCASQH--- 167

Db 111 SIDMBEGVYTEKDDCGSCWAFSATGATMEGQYMKNOQANISFSEQQLVDCSGDYGR 170
 QY 168 GCHGDTIPRGIEYIQHNHGVQESYRYVAREOSCRPRNAQRFGISNYCOIYPNNVKIRE 227
 Db 171 GCGSGMEHAHYELVLEVGLETBSSYPKABEPCCKTDS--RLGVAVKNGFYDFHFG---- 224
 QY 228 ALAQTHSAIAVITIGIK-----DLDA-PHYDGRITTIQDNGYQRYNAVNIYGSNAQ 279
 Db 225 ----VESKIALHLYVDGKPAVAADVESDFLMYRGIGIYASNCSEKLNHMLVVGXTOD 280
 QY 280 GVDYWIYVNSMDTNMGDNGYGFPAANID-----LMIMEYR 315
 Db 281 GTDYWIYVNSWGSGLMGDGHGTYIRMARNDNMGCIASPASLPVYPPFP 326

RESULT 14

QY 07JUN08 PRELIMINARY; PRT; 326 AA.
 AC 05-JUL-2004 (TREMBlrel. 27, Created)
 DT 05-JUL-2004 (TREMBlrel. 27, Last sequence update)
 DT 05-JUL-2004 (TREMBlrel. 27, Last annotation update)
 DE Secreted cathepsin L 2.
 GN Name=PheCL2;
 OS Fasciola hepatica (liver fluke).
 OC Eukaryota; Metazoa; Platyhelminthes; Trematoda; Digenea;
 OC Echinostomida; Echinostomata; Fasciolidae; Fasciola.
 NCBI_Taxid=6192;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97418801; PubMed=9274877; DOI=10.1016/S0166-6851(97)00090-X;
 RA Dowd A.J., Tort J., Roche L., Ryan T., Dalton J.P.,
 RT "Isolation of a cDNA encoding Fasciola hepatica cathepsin L2 and
 functional expression in Saccharomyces cerevisiae."
 RL Mol. Biochem. Parasitol. 88:163-174(1997).
 CC -1- SIMILARITY: Belongs to peptidase family C1.
 DR EMBL: U62283; AAC47721.1; -.
 DR HSP; P43235; 1AYU.
 DR GO: GO:0004157; F:cysteine-type endopeptidase activity; IEA.
 DR GO: GO:0006508; P:proteolysis and peptidolysis; IEA.
 DR InterPro: IPR000668; Peptidase_C1.
 DR InterPro: IPR000169; Pept. cys. acsite.
 DR Pfam: PF00112; Peptidase_C1; 1.
 DR PRINTS: PR00705; PAPAIN; 1.
 DR ProDom: PD000158; Peptidase_C1; 1.
 DR SMART; SM00645; Pept_C1; 1.
 DR PROSITE; PS00640; THIOI_PROTEASE ASN; 1.
 DR PROSITE; PS00139; THIOI_PROTEASE CYS; 1.
 DR PROSITE; PS00639; THIOI_PROTEASE HIS; UNKNOWN_1.
 KW Hydroxylase; Protease; Thiol protease.
 SQ SEQUENCE 326 AA; 37033 MW; 688FBC9ACC4FA527 CRC64;

Query Match 22.1%; Score 371; DB 2; Length 326;
 Best Local Similarity 30.8%; Pred. No. 9.2e-21;
 Matches 100; Conservative 56; Mismatches 123; Indels 46; Gaps 13;

QY 4 VLAIASLIALSAYVARSISITPEBYKKAENKSYATPEDEARKNFL-SEYKVYOSNG- 61
 Db 5 VLAVLVTV--GYVA--SNDLMHWQKRIYKNEYNGADNH--RRNWKGNVKAHQEHNL 56
 QY 62 -----GAINHLSDLSIDEFKNRFLMSAEAFEHKTFDINAETNACSIINGNAPAE 111
 Db 57 RHDLGLVYKGLNPFDTLTFEPRKAKYLIRPSSSELSR-GIPFRANKLAV-----PES 111
 QY 112 IDLRQMTVTPTRIMOGGCGSAAWAFSGVATESAVIAYNOSLDLAEQELVDC---ASQHG 168
 Db 112 IDMRDYYVTVKNGGCGSCWAFSTGAVGQFKNERASASFSQQLVDCPRDLANGY 171
 QY 169 CHGDTIPRGIEYIQHNHGVQESYRYVAREOSCRPRNAQRFGISNYCOIYPNNVKIRE 227
 Db 172 CGGGMENAYEYELKHNGLTESYYPYQAVEGPCQYDGLAAYAKVGYTTVHSGEIELKN 231

QY 228 ALAQTHSAIAVITIGIKDIAFRHYDGRITTIQDNGYQRYNAVNIYGSNAQ 280
 Db 222 -LVGREGRAVA-----IDA-----DSDEPMYQSGIYQOTCLPRLTFAVLAVGYSQDG 281
 QY 281 VDYWIYVNSMDTNMGDNGYGFPAAN 305
 Db 282 TDYWIYVNSWGTWNGEDGYIRFARN 306

RESULT 15

QY 095VA7 PRELIMINARY; PRT; 326 AA.
 AC 095VA7;
 ID 01-DEC-2001 (TREMBlrel. 19, Created)
 DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
 DT 01-MAR-2004 (TREMBlrel. 26, Last annotation update)
 DE Cathepsin L.
 GN Name=cat-LIG;
 OS Fasciola gigantica (liver fluke).
 OC Eukaryota; Metazoa; Platyhelminthes; Trematoda; Digenea;
 OC Echinostomida; Echinostomata; Fasciolidae; Fasciola.
 NCBI_Taxid=46835;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Sobhon P., Meemon K., Grams R., Grams S.V., Korge G., Hofmann A.;
 RL Submitted (SEP-2001) to the EMBL/Genbank/DBJ databases.
 CC -1- SIMILARITY: Belongs to peptidase family C1.
 DR EMBL: AF419329; AL23917.1; -.
 DR HSP; P53634; 1K3B.
 DR MEROPS; C01.033; -.
 DR GO: GO:0004197; F:cysteine-type endopeptidase activity; IEA.
 DR GO: GO:0006508; P:proteolysis and peptidolysis; IEA.
 DR InterPro: IPR000668; Peptidase_C1.
 DR InterPro: IPR000169; Pept. cys. acsite.
 DR Pfam: PF00112; Peptidase_C1; 1.
 DR PRINTS: PR00705; PAPAIN; 1.
 DR ProDom: PD000158; Peptidase_C1; 1.
 DR SMART; SM00645; Pept_C1; 1.
 DR PROSITE; PS00640; THIOI_PROTEASE ASN; 1.
 DR PROSITE; PS00139; THIOI_PROTEASE CYS; 1.
 DR PROSITE; PS00639; THIOI_PROTEASE HIS; UNKNOWN_1.
 KW Hydroxylase; Protease; Thiol protease.
 SQ SEQUENCE 326 AA; 37457 MW; 7D5F4AF74BE64861 CRC64;

Query Match 22.1%; Score 370.5; DB 2; Length 326;
 Best Local Similarity 31.3%; Pred. No. 1e-20;
 Matches 107; Conservative 56; Mismatches 130; Indels 49; Gaps 15;

QY 5 LIAISLIALSAYVARSISITPEBYKKAENKSYATPEDEARKNFL-SEYKVYOSNG-- 61
 Db 3 LFIITVLV-LAGAVA--SNDLMHEWRKRYKNEYNGADNH--RRNWKGNVKAHQEHNL 57
 QY 62 -----GAINHLSDLSIDEFKNRFL--MSAEAFEHKTFDINAETNACSIINGNAPAE 110
 Db 58 HDGLVYTYTGLNPFDTLTFEPRKAKYLITEMSEPS-ESLSDGISYAEQN-----DVPA 110
 QY 111 EIDLQMTVTPTRIMOGGCGSAAWAFSGVATESAVIAYNOSLDLAEQELVDCASQ--- 166
 Db 111 SIDMRGYVTVKNGGCGSCWAFSAVGAIEQYKKEKRRNML-FSEQQLVDCPTRFEN 169
 QY 167 HCHGDTIPRGIEYIQHNHGVQESYRYVAREOSCRPRNAQRFGISNYCOIYPNNV-- 223
 Db 170 HGCGGMENAYRYLLDQSGLETASYPYQAVEYQCO--YRRELGAVALGATVHSGDEM 227
 QY 224 KIREALAQTHSAIAVITIGIDIAFRHYDGRITTIQDNGYQRYNAVNIYGSNAQVDY 283
 Db 228 RLQMGVREBPAAVADAQSD---FYMYSGIRMSQVCTQRTYHVLAVVGTESGTY 284
 QY 284 WIVNSMDTNMGDNGYGFPAANTLM-----MIMEYR 315
 Db 285 WISKNSWGWGBDGYWRFAIRNNMCAIASVASVPMVERFP 326

Search completed: May 17, 2005, 15:04:57
Job time : 179 secs

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: May 17, 2005, 14:50:02 ; Search time 46 Seconds
(without alignments)
519.298 Million cell updates/sec

Title: US-09-554-860B-2

Perfect score: 1680

Sequence: 1 MKIVVLAISLILSAVYARP.....YFANIDLMIREPYVIL 320

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:*

1: /cgm2_6/prodata/1/iaa/5A_COMB.pep:*

2: /cgm2_6/prodata/1/iaa/5B_COMB.pep:*

3: /cgm2_6/prodata/1/iaa/6A_COMB.pep:*

4: /cgm2_6/prodata/1/iaa/6B_COMB.pep:*

5: /cgm2_6/prodata/1/iaa/6C_COMB.pep:*

6: /cgm2_6/prodata/1/iaa/6D_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1657	98.6	320	1	US-07-945-288-10
2	1657	98.6	320	1	US-08-462-831-10
3	1657	98.6	320	1	US-08-461-809-10
4	1657	98.6	320	1	US-08-461-441-10
5	1657	98.6	320	1	PCT-US93-08518-10
6	1406.5	83.7	321	1	US-07-945-288-6
7	1406.5	83.7	321	1	US-08-462-831-6
8	1406.5	83.7	321	1	US-08-461-809-6
9	1406.5	83.7	321	1	US-08-461-441-6
10	1406.5	83.7	321	2	US-08-482-142-6
11	1406.5	83.7	321	2	US-08-478-572-6
12	1406.5	83.7	321	3	US-08-484-296-6
13	1406.5	83.7	321	5	PCT-US93-08518-6
14	1294	77.0	245	1	US-07-945-288-2
15	1294	77.0	245	1	US-08-462-831-2
16	1294	77.0	245	1	US-08-461-809-2
17	1294	77.0	245	1	US-08-461-441-2
18	1294	77.0	245	2	US-08-482-142-2
19	1294	77.0	245	2	US-08-478-572-2
20	1294	77.0	245	3	US-08-484-296-2
21	1294	77.0	245	5	PCT-US93-08518-2
22	1232	73.3	245	3	US-08-460-040-2
23	1157	68.9	222	1	US-07-945-288-11
24	1157	68.9	222	1	US-08-462-831-11
25	1157	68.9	222	1	US-08-461-809-11
26	1157	68.9	222	1	US-08-461-441-11
27	1157	68.9	222	5	PCT-US93-08518-11

28	376.5	22.4	181	2	US-08-482-142-195	Sequence 195, App
29	376.5	22.4	181	2	US-08-478-572-195	Sequence 195, App
30	376.5	22.4	181	3	US-08-484-296-195	Sequence 195, App
31	369.5	22.0	457	3	US-09-120-365-72	Sequence 72, App1
32	369.5	22.0	457	3	US-09-515-039-72	Sequence 72, App1
33	354.5	21.1	181	2	US-08-482-142-197	Sequence 197, App
34	354.5	21.1	181	2	US-08-478-572-197	Sequence 197, App
35	354.5	21.1	181	3	US-08-484-296-197	Sequence 197, App
36	352	21.0	326	3	US-09-120-365-67	Sequence 67, App1
37	352	21.0	326	3	US-09-515-039-67	Sequence 67, App1
38	349	20.8	329	3	US-08-964-308-15	Sequence 15, App1
39	349	20.8	329	3	US-08-964-313-15	Sequence 15, App1
40	349	20.8	329	3	US-09-069-138-15	Sequence 15, App1
41	349	20.8	396	4	US-09-325-932A-153	Sequence 153, App
42	347	20.7	380	3	US-09-120-365-76	Sequence 76, App1
43	347	20.7	380	3	US-09-515-039-76	Sequence 76, App1
44	347	20.7	380	3	US-08-860-255A-5	Sequence 5, App1
45	346	20.6	329	3	US-08-964-308-14	Sequence 14, App1

ALIGNMENTS

RESULT 1

US-07-945-288-10

Sequence 10, Application US/07945288

Patent No. 5433948

GENERAL INFORMATION:

APPLICANT: Thomas, Wayne R.

APPLICANT: Chua, Kew-Yan

TITLE OF INVENTION: CLONING AND SEQUENCING OF ALLERGENS FROM

TITLE OF INVENTION: DERMATOPHAGOIDES (HOUSE DUST MITES)

NUMBER OF SEQUENCES: 13

CORRESPONDENCE ADDRESS:

ADDRESS: LAHIVE & COCKFIELD

STREET: 60 STATE STREET, SUITE 510

CITY: BOSTON

STATE: MA

COUNTRY: USA

ZIP: 02109

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII TEXT

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/945,288

FILING DATE: 19920910

CLASSIFICATION: 514

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 580,655

FILING DATE: 11 SEPTEMBER 1990

APPLICATION NUMBER: 458,642

FILING DATE: 13 FEBRUARY 1990

ATTORNEY/AGENT INFORMATION:

NAME: MANDAGOURAS, AMY E.

REGISTRATION NUMBER: P36,207

REFERENCE/DOCKET NUMBER: IPC-010CC (INT-024)

TELEPHONE: (617) 227-7400

TELEFAX: (617) 227-5941

INFORMATION FOR SEQ ID NO: 10:

SEQUENCE CHARACTERISTICS:

LENGTH: 320 amino acids

TYPE: AMINO ACID

TOPOLOGY: linear

MOLECULE TYPE: protein

US-07-945-288-10

Query Match 98.6%; Score 1657; DB 1; Length 320;
Best Local Similarity 98.4%; Pred. No. 9,1e-164;
Matches 315; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

US-08-461-809-10

Query Match 98.6%; Score 1657; DB 1; Length 320;
Best Local Similarity 98.4%; Pred. No. 9.1e-164;
Matches 315; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 MKTVALIASLALSAVYARPPSSIKTFEEYKKAFFNKSATPEDEBARKNFLSVKVOQN 60
DB 1 MKTVALIASLALSAVYARPPSSIKTFEEYKKAFFNKSATPEDEBARKNFLSVKVOQN 60
QY 61 GGAINHLSLSDLEFNKFLMSAEAFELKTQPDNAETNACISINGNAPEIDLRQRTY 120
DB 61 GGAINHLSLSDLEFNKFLMSAEAFELKTQPDNAETNACISINGNAPEIDLRQRTY 120
QY 121 TPIRMGGGGSAMAFSGVATSAVLAHYNQSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
DB 121 TPIRMGGGGSAMAFSGVATSAVLAHYNQSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
QY 181 IQHNGVQESYTRYVARQSCRRPNAQRFGISNYCQIYPPNKKIRREALAQTHSAIAVII 240
DB 181 IQHNGVQESYTRYVARQSCRRPNAQRFGISNYCQIYPPNKKIRREALAQTHSAIAVII 240
QY 241 GIKDLAFRHYDRTIIQRDNGYQPNYAAVNIWGSNAQGVYWIYRNSMDTNMGDNGYG 300
DB 241 GIKDLAFRHYDRTIIQRDNGYQPNYAAVNIWGSNAQGVYWIYRNSMDTNMGDNGYG 300
QY 301 YFAANIDLMWIEEYPYVIL 320
DB 301 YFAANIDLMWIEEYPYVIL 320

RESULT 4

US-08-461-441-10
Sequence 10, Application US/08461441

GENERAL INFORMATION:

APPLICANT:
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,441
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/945,288
FILING DATE: 10 SEPTEMBER 1992
APPLICATION NUMBER: US 580,655
FILING DATE: 11 SEPTEMBER 1990
APPLICATION NUMBER: US 458,642
FILING DATE: 13 FEBRUARY 1990
ATTORNEY/AGENT INFORMATION:
NAME: MANDRAGOURAS, AMY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 320 amino acids

TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-461-441-10

Query Match 98.6%; Score 1657; DB 1; Length 320;
Best Local Similarity 98.4%; Pred. No. 9.1e-164;
Matches 315; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 MKTVALIASLALSAVYARPPSSIKTFEEYKKAFFNKSATPEDEBARKNFLSVKVOQN 60
DB 1 MKTVALIASLALSAVYARPPSSIKTFEEYKKAFFNKSATPEDEBARKNFLSVKVOQN 60
QY 61 GGAINHLSLSDLEFNKFLMSAEAFELKTQPDNAETNACISINGNAPEIDLRQRTY 120
DB 61 GGAINHLSLSDLEFNKFLMSAEAFELKTQPDNAETNACISINGNAPEIDLRQRTY 120
QY 121 TPIRMGGGGSAMAFSGVATSAVLAHYNQSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
DB 121 TPIRMGGGGSAMAFSGVATSAVLAHYNQSLDLAEQELVDCASQHGCHGDTIPRGIEY 180
QY 181 IQHNGVQESYTRYVARQSCRRPNAQRFGISNYCQIYPPNKKIRREALAQTHSAIAVII 240
DB 181 IQHNGVQESYTRYVARQSCRRPNAQRFGISNYCQIYPPNKKIRREALAQTHSAIAVII 240
QY 241 GIKDLAFRHYDRTIIQRDNGYQPNYAAVNIWGSNAQGVYWIYRNSMDTNMGDNGYG 300
DB 241 GIKDLAFRHYDRTIIQRDNGYQPNYAAVNIWGSNAQGVYWIYRNSMDTNMGDNGYG 300
QY 301 YFAANIDLMWIEEYPYVIL 320
DB 301 YFAANIDLMWIEEYPYVIL 320

RESULT 5
PCT-US93-08518-10
Sequence 10, Application PC/TUS9308518

GENERAL INFORMATION:

APPLICANT:
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08518
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/945,288
FILING DATE: 10 SEPTEMBER 1992
APPLICATION NUMBER: US 580,655
FILING DATE: 11 SEPTEMBER 1990
APPLICATION NUMBER: US 458,642
FILING DATE: 13 FEBRUARY 1990
ATTORNEY/AGENT INFORMATION:
NAME: MANDRAGOURAS, AMY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 320 amino acids
TYPE: amino acid
TOPOLOGY: linear

MOLECULE TYPE: protein
PCT-US93-08518-10

Query Match 98.6%; Score 1657; DB 5; Length 320;
Best Local Similarity 98.4%; Pred. No. 9.1e-164;
Matches 315; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 MKIVLAISLILASAVYARPPSSIKTFEEYKKAFFKSYATFEEDEBARKNFLSVKYQSN 60
DB 1 MKTTLAASLILASAVYARPPSSIKTFEEYKKAFFKSYATFEEDEBARKNFLSVKYQSN 60
QY 61 GGAINHSLDLSDEFKRFMSAFAFHLKTFQFDLNAETNACSIINGNAPAEIDLRQMTV 120
DB 61 GGAINHSLDLSDEFKRFMSAFAFHLKTFQFDLNAETNACSIINGNAPAEIDLRQMTV 120
QY 121 TPIRMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCAQCHGCHGDTTPRGIEY 180
DB 121 TPIRMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCAQCHGCHGDTTPRGIEY 180
QY 181 IQHNGVQESYRYVAREQSCRPNACRFGISNYCOIYPPVANKIREALAQTHSAIAVI 240
DB 181 IQHNGVQESYRYVAREQSCRPNACRFGISNYCOIYPPVANKIREALAQTHSAIAVI 240
QY 241 GIKDLAFRHYDGRITIQDNGYQPNYAANIVGYSNAQGVYWIIVNSMDTWGNDGYG 300
DB 241 GIKDLAFRHYDGRITIQDNGYQPNYAANIVGYSNAQGVYWIIVNSMDTWGNDGYG 300
QY 301 YFAANIDLMIEEYPVVIL 320
DB 301 YFAANIDLMIEEYPVVIL 320

RESULT 6

US-07-945-288-6
Sequence 6, Application US/07945288
Patent No. 5433948

GENERAL INFORMATION:

APPLICANT: Thomas, Wayne R.

TITLE OF INVENTION: CLONING AND SEQUENCING OF ALLERGENS FROM

NUMBER OF SEQUENCES: 13

DERMATOPHAGOIDES (HOUSE DUST MITES)

CORRESPONDENCE ADDRESS:

ADDRESSEE: LAHIVE & COCKFIELD

STREET: 60 STATE STREET, SUITE 510

CITY: BOSTON

STATE: MA

COUNTRY: USA

ZIP: 02109

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII TEXT

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/945,288

FILING DATE: 19970910

CLASSIFICATION: 514

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 580,655

FILING DATE: 11 SEPTEMBER 1990

APPLICATION NUMBER: 458,642

FILING DATE: 13 FEBRUARY 1990

ATTORNEY/AGENT INFORMATION:

NAME: MANDRAGOURAS, AMY E.

REGISTRATION NUMBER: P36,207

REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)

TELEPHONE: (617) 227-7400

TELEFAX: (617) 227-5941

INFORMATION FOR SEQ ID NO: 6:

SEQUENCE CHARACTERISTICS:

LENGTH: 321 amino acids

TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-945-288-6

Query Match 83.7%; Score 1406.5; DB 1; Length 321;
Best Local Similarity 82.2%; Pred. No. 1e-137;
Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;

QY 1 MKIVLAISLILASAVYARPPSSIKTFEEYKKAFFKSYATFEEDEBARKNFLSVKYQSN 60
DB 1 MKFVLAISLILASAVYARPPSSIKTFEEYKKAFFKSYATFEEDEBARKNFLSVKYQSN 60
QY 61 GGAINHSLDLSDEFKRFMSAFAFHLKTFQFDLNAETNACSIINGNAPAEIDLRQMTV 119
DB 61 GGAINHSLDLSDEFKRFMSAFAFHLKTFQFDLNAETNACSIINGNAPAEIDLRQMTV 119
QY 120 TPIRMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCAQCHGCHGDTTPRGIEY 179
DB 120 TPIRMGGCGSAMAFSGVAATESAYLAVRNQSLDLAEQELVDCAQCHGCHGDTTPRGIEY 179
QY 181 IQHNGVQESYRYVAREQSCRPNACRFGISNYCOIYPPVANKIREALAQTHSAIAVI 239
DB 181 IQHNGVQESYRYVAREQSCRPNACRFGISNYCOIYPPVANKIREALAQTHSAIAVI 239
QY 240 GIKDLAFRHYDGRITIQDNGYQPNYAANIVGYSNAQGVYWIIVNSMDTWGNDGYG 299
DB 240 GIKDLAFRHYDGRITIQDNGYQPNYAANIVGYSNAQGVYWIIVNSMDTWGNDGYG 299
QY 300 YFAANIDLMIEEYPVVIL 320
DB 300 YFAANIDLMIEEYPVVIL 320

RESULT 7

US-08-462-831-6
Sequence 6, Application US/08462831
Patent No. 5552142

GENERAL INFORMATION:

APPLICANT:

TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM

NUMBER OF SEQUENCES: 13

DERMATOPHAGOIDES

CORRESPONDENCE ADDRESS:

ADDRESSEE: LAHIVE & COCKFIELD

STREET: 60 STATE STREET, SUITE 510

CITY: BOSTON

STATE: MA

COUNTRY: USA

ZIP: 02109

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII TEXT

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/462,831

FILING DATE:

CLASSIFICATION: 424

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/945,288

FILING DATE: 10 SEPTEMBER 1992

APPLICATION NUMBER: US 580,655

FILING DATE: 11 SEPTEMBER 1990

APPLICATION NUMBER: US 458,642

FILING DATE: 13 FEBRUARY 1990

ATTORNEY/AGENT INFORMATION:

NAME: MANDRAGOURAS, AMY E.

REGISTRATION NUMBER: 36,207

REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)

TELEPHONE: (617) 227-7400

TELEFAX: (617) 227-5941

INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 321 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-462-831-6

Query Match 83.7%; Score 1406.5; DB 1; Length 321;
Best Local Similarity 82.2%; Pred. No. 1e-137;
Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;

QY 1 MKIVLAISLALSAVYARPSISKTEBEYKAKFNKSYATFEDEBARKNFLSKYVQSN 60
DB 1 MKFVLAISLVLSTVYARPAKITEBEFKAPFNKYATVEEVARKNFLSKYVEAN 60
QY 61 GGAINHLSDLSLDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLRQMT 119
DB 61 KGAINHLSLSDLSDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLRQMT 120
QY 120 VPIRMQGGCGSAMAFSGVAATESAYLARNTSLDSEBELVDCASQHGCHDITPRGIE 179
DB 121 VPIRMQGGCGSAMAFSGVAATESAYLARNTSLDSEBELVDCASQHGCHDITPRGIE 180
QY 180 YIQHNGVVEESYRYVARBQRCRRPNAORFGISNTCOIYPPVVKIREALTOHTSAIAYI 239
DB 181 YIQHNGVVEESYRYVARBQRCRRPNSOHYGISNTCOIYPPVVKIREALTOHTSAIAYI 240
QY 240 IGKIDLAERHYDGRITTIQDNGYQPNYAAVNIIVGYSNAQGVYWIVRNSMDTNMGDNGY 299
DB 241 IGKIDLAERHYDGRITTIQDNGYQPNYAAVNIIVGYSNAQGVYWIVRNSMDTNMGDNGY 300
QY 300 GYFAANIDLMTEEYPPYVIL 320
DB 301 GYFAAGNNIMTEEQYPPYVIM 321

RESULT 8
US-08-461-809-6
Sequence 6, Application US/08461809
Patent No. 5770202
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM
TITLE OF INVENTION: DERMATOPHAGOIDES
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESSES:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,809
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/945,288
FILING DATE: 10 SEPTEMBER 1992
APPLICATION NUMBER: US 580,655
FILING DATE: 11 SEPTEMBER 1990
APPLICATION NUMBER: US 458,642
FILING DATE: 13 FEBRUARY 1990
ATTORNEY/AGENT INFORMATION:
NAME: MANDRAGOURAS, AMY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)

TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 321 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-461-809-6

Query Match 83.7%; Score 1406.5; DB 1; Length 321;
Best Local Similarity 82.2%; Pred. No. 1e-137;
Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;

QY 1 MKIVLAISLALSAVYARPSISKTEBEYKAKFNKSYATFEDEBARKNFLSKYVQSN 60
DB 1 MKFVLAISLVLSTVYARPAKITEBEFKAPFNKYATVEEVARKNFLSKYVEAN 60
QY 61 GGAINHLSDLSLDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLRQMT 119
DB 61 KGAINHLSLSDLSDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLRQMT 120
QY 120 VPIRMQGGCGSAMAFSGVAATESAYLARNTSLDSEBELVDCASQHGCHDITPRGIE 179
DB 121 VPIRMQGGCGSAMAFSGVAATESAYLARNTSLDSEBELVDCASQHGCHDITPRGIE 180
QY 180 YIQHNGVVEESYRYVARBQRCRRPNAORFGISNTCOIYPPVVKIREALTOHTSAIAYI 239
DB 181 YIQHNGVVEESYRYVARBQRCRRPNSOHYGISNTCOIYPPVVKIREALTOHTSAIAYI 240
QY 240 IGKIDLAERHYDGRITTIQDNGYQPNYAAVNIIVGYSNAQGVYWIVRNSMDTNMGDNGY 299
DB 241 IGKIDLAERHYDGRITTIQDNGYQPNYAAVNIIVGYSNAQGVYWIVRNSMDTNMGDNGY 300
QY 300 GYFAANIDLMTEEYPPYVIL 320
DB 301 GYFAAGNNIMTEEQYPPYVIM 321

RESULT 9
US-08-461-441-6
Sequence 6, Application US/08461441
Patent No. 5773002
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM
TITLE OF INVENTION: DERMATOPHAGOIDES
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESSES:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,441
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/945,288
FILING DATE: 10 SEPTEMBER 1992
APPLICATION NUMBER: US 580,655
FILING DATE: 11 SEPTEMBER 1990
APPLICATION NUMBER: US 458,642
FILING DATE: 13 FEBRUARY 1990
ATTORNEY/AGENT INFORMATION:

```

? NAME: MANDRACOURAS, AMY E.
? REGISTRATION NUMBER: 36,207
? REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)
? TELECOMMUNICATION INFORMATION:
? TELEPHONE: (617) 227-7400
? TELEFAX: (617) 227-5941
? INFORMATION FOR SEQ ID NO: 6:
? SEQUENCE CHARACTERISTICS:
? LENGTH: 321 amino acids
? TYPE: amino acid
? TOPOLOGY: linear
? MOLECULE TYPE: protein
?
US-08-461-441-6

```

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Query Match      83.7%   Score 1406.5;   DB 1;   Length 321;
Best Local Similarity 82.2%   Pred. No. 1e-137;
Matches 264;   Conservative 25;   Mismatches 31;   Indels 1;   Gaps 1.

```

[illegible]

RESULT 10
 US-08-482-142-6
 Sequence 6, Application US/08482142
 Patent No. 5820862
 GENERAL INFORMATION:
 APPLICANT: Garmen, Richard
 APPLICANT: Greenstein, Julia
 APPLICANT: Kuo, Mei-chang
 APPLICANT: Rogers, Bruce
 APPLICANT: Franzen, Henry
 APPLICANT: Chen, Xian
 APPLICANT: Evans, Sean
 APPLICANT: Shaked, Ze'ev
 TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS
 FROM DERMATOPHAGOIDES (HOUSE DUST MITE)
 NUMBER OF SEQUENCES: 207
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: IMMUNOLOGIC PHARMACEUTICAL CORPORATION
 STREET: 610 LINCOLN STREET
 CITY: WALTHAM
 STATE: MA
 COUNTRY: USA
 ZIP: 02154
 COMPUTER READABLE FORM:
 MEDIUM TYPE: Floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: ASCII TEXT
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/482,142

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Query Match	83.7%	Score 1406.5	DB 2	Length 321
Best Local Similarity	82.2%	Pred. No. 1e-137		
Matches 264	Conservative 25	Mismatches 31	Indels 1	Gaps 1

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QY      MKIVLIVASLIVASVAPSSIKTFEEYKKAFKMSVATFEDBEAAKNLESTKYQSN 60
Db      1 MKVVLIVASLIVASVYVAPPAKIKTFEEFKKAFKNVAVYEEBVAKNLFESIKYVAN 60
QY      61 GGAINHLSLIDSEDFEKNRFLMSAEAFBEHLKQFQDLMAETNACSLNG-NAFAEIDLQMR 119
Db      61 KGAINHLSLIDSEDFEKNRFLMSAEAFBEHLKQFQDLMAETSCRLNSVNVSEBLSLKT 120
QY      120 VTFPIRQGGCGGSAFMSAGVATESAYLAVRNQSLDLAEQELVDCASQHGCHGDTIPRGIE 179
Db      121 VTFPIRQGGCGGSAFMSAGVATESAYLAVRNQSLDLAEQELVDCASQHGCHGDTIPRGIE 180
QY      180 YIQHNGVQDESTRYIYAEFQSCRRPNAORFGLSNYCOIYPPNNKIREALAOHSAIAVI 239
Db      181 YIQNGVSESTRSPYIYAEFQSCRRPNSOHYGLSNCOIYPPDVQOIREALVOHTAIIAVI 240
QY      240 IGIKDLDAFHYGRTIIQNDNGYQONTAAVNIYVGSNAQGVDPYIVRNSWDTNMGDNGY 299
Db      241 IGIKDLDAFHYGRTIIQNDNGYQONTAAVNIYVGSQGDQDPMIVRNSWDTNMGDSGY 300
QY      300 GYFPAANDLMMIEEYPPYVIL 320
Db      301 GYFQAGNNLMMIEOYPPYVIM 321

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RESULT 11
US-08-478-572-6
; Sequence 6, Application US/08478572
; Patent No. 5968526
; GENERAL INFORMATION:
; APPLICANT: Garmant, Richard
; APPLICANT: Greenstein, Julia
; APPLICANT: Kuo, Mei-chang
; APPLICANT: Rogers, Bruce
; APPLICANT: Franzen, Henry
; APPLICANT: Chen, Xian
; APPLICANT: Evans, Sean
; APPLICANT: Shaked, Ze'ev
; TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS
; TITLE OF INVENTION: FROM DERMATOPHAGOCIDES (HOUSE DUST MITE
; NUMBER OF SEQUENCES: 207
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: IMMULOGIC PHARMACEUTICAL CORPORATION
; STREET: 610 LINCOLN STREET
; CITY: WALTHAM
; STATE: MA
; COUNTRY: USA
; ZIP: 02154
; COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,572
FILING DATE: 07-June-1995
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/445,307
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: CRAIG, ANNE I.
REGISTRATION NUMBER: 32,976
REFERENCE/DOCKET NUMBER: 017,605
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 466-6000
TELEFAX: (617) 466-6040
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 321 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-478-572-6

Query Match 83.7%; Score 1406.5; DB 2; Length 321;
Best Local Similarity 82.2%; Pred. No. 1e-137;
Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;

QY 1 MKIVLAISLALSAVYARPSIKTFEYKKAFNKSYATFEDEBARKNFLSVKYVQSN 60
DB 1 MKFVLAISLALSVYARPAASIKTFEYKKAFNKSYATFEDEBARKNFLSVKYVQSN 60
QY 61 GGAINHLSDLSLDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLROMET 119
DB 61 KKAINHLSLSDLSDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLROMET 120
QY 120 VPIRMGGCGGMAASGYAATSAIYLRNOSLDLAEGELVDCASQCHGCHDTIPRGIE 179
DB 121 VPIRMGGCGGMAASGYAATSAIYLRNOSLDLAEGELVDCASQCHGCHDTIPRGIE 180
QY 180 YIOHNGVQESYRRYVAREOSCRPNARPGISNYCOIYPPVNRKIREALQTHSAIAYI 239
DB 181 YIOHNGVQESYRRYVAREOSCRPNARPGISNYCOIYPPVNRKIREALQTHSAIAYI 240
QY 240 IGIKDLAFRHYDGRITIIQDNGYQPNYAAVNIIVGYSNAQGVYWIIVRNSWDTMGDNGY 299
DB 241 IGIKDLAFRHYDGRITIIQDNGYQPNYAAVNIIVGYSNAQGVYWIIVRNSWDTMGDNGY 300
QY 300 GYFAANIDLMIEEYPIYVIL 320
DB 301 GYFAANIDLMIEEYPIYVIM 321

RESULT 12
US-08-484-296-6
Sequence 6, Application US/08484296
Patent No. 6268491
GENERAL INFORMATION:
APPLICANT: Garman, Richard
APPLICANT: Greenstein, Julia
APPLICANT: Kuo, Mei-chang
APPLICANT: Rogers, Bruce
APPLICANT: Franzen, Henry
APPLICANT: Chen, Xian
APPLICANT: Evans, Sean
APPLICANT: Shaked, Ze'ev
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS
TITLE OF INVENTION: FROM DERMATOPHAGOIDES (HOUSE DUST MITE)
NUMBER OF SEQUENCES: 207
CORRESPONDENCE ADDRESS:
ADDRESSEE: IMMULOGIC PHARMACEUTICAL CORPORATION

STREET: 610 LINCOLN STREET
CITY: WALTHAM
STATE: MA
COUNTRY: USA
ZIP: 02154
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/484,296
FILING DATE:
CLASSIFICATION: 435
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/445,307
FILING DATE: 07 June 1995
ATTORNEY/AGENT INFORMATION:
NAME: CRAIG, ANNE I.
REGISTRATION NUMBER: 32,976
REFERENCE/DOCKET NUMBER: 017,605
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 466-6000
TELEFAX: (617) 466-6040
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 321 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-484-296-6

Query Match 83.7%; Score 1406.5; DB 3; Length 321;
Best Local Similarity 82.2%; Pred. No. 1e-137;
Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;

QY 1 MKIVLAISLALSAVYARPSIKTFEYKKAFNKSYATFEDEBARKNFLSVKYVQSN 60
DB 1 MKFVLAISLALSVYARPAASIKTFEYKKAFNKSYATFEDEBARKNFLSVKYVQSN 60
QY 61 GGAINHLSDLSLDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLROMET 119
DB 61 KKAINHLSLSDLSDEFKRNFLMSAEAEHLKTFDINAETNACISNG-NAPAEIDLROMET 120
QY 120 VPIRMGGCGGMAASGYAATSAIYLRNOSLDLAEGELVDCASQCHGCHDTIPRGIE 179
DB 121 VPIRMGGCGGMAASGYAATSAIYLRNOSLDLAEGELVDCASQCHGCHDTIPRGIE 180
QY 180 YIOHNGVQESYRRYVAREOSCRPNARPGISNYCOIYPPVNRKIREALQTHSAIAYI 239
DB 181 YIOHNGVQESYRRYVAREOSCRPNARPGISNYCOIYPPVNRKIREALQTHSAIAYI 240
QY 240 IGIKDLAFRHYDGRITIIQDNGYQPNYAAVNIIVGYSNAQGVYWIIVRNSWDTMGDNGY 299
DB 241 IGIKDLAFRHYDGRITIIQDNGYQPNYAAVNIIVGYSNAQGVYWIIVRNSWDTMGDNGY 300
QY 300 GYFAANIDLMIEEYPIYVIL 320
DB 301 GYFAANIDLMIEEYPIYVIM 321

RESULT 13
PCT-US93-08518-6
Sequence 6, Application PC/TUS9308518
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM
TITLE OF INVENTION: DERMATOPHAGOIDES
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON

STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08518
FILING DATE:
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: US 07/945,288
FILING DATE: 10 SEPTEMBER 1992
ATTORNEY/AGENT INFORMATION:
NAME: MANDRAGOURAS, AMY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 321 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
PCT-US93-08518-6

Query Match 83.7%; Score 1406.5; DB 5; Length 321;
Best Local Similarity 82.2%; Pred. No. 1e-137;
Matches 264; Conservative 25; Mismatches 31; Indels 1; Gaps 1;
QY 1 MKFLALASLALSAVYAPPSIKTFEEYKKAENKSYATEDEBARAKNLFESKTYQSN 60
DB 1 MKFLALASLALSAVYAPPSIKTFEEYKKAENKSYATEDEBARAKNLFESKTYQSN 60
QY 61 GGAINHSDLSDFKRFILMSAFAEHLKTOPFLNAETNACISNG-NAPABIDLRQMT 119
DB 61 GGAINHSDLSDFKRFILMSAFAEHLKTOPFLNAETNACISNG-NAPABIDLRQMT 119
QY 120 VPIRMGGCGSAMAFSGVATESAVLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIE 179
DB 120 VPIRMGGCGSAMAFSGVATESAVLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIE 179
QY 121 VPIRMGGCGSAMAFSGVATESAVLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIE 180
DB 121 VPIRMGGCGSAMAFSGVATESAVLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIE 180
QY 180 YIQNGVQSSYRYVARBQSCRRPNAQRFISNYCOIYPPNVKIRBALAQTHSAIAVI 239
DB 180 YIQNGVQSSYRYVARBQSCRRPNAQRFISNYCOIYPPNVKIRBALAQTHSAIAVI 239
QY 181 YIQNGVQSSYRYVARBQSCRRPNAQRFISNYCOIYPPNVKIRBALAQTHSAIAVI 240
DB 181 YIQNGVQSSYRYVARBQSCRRPNAQRFISNYCOIYPPNVKIRBALAQTHSAIAVI 240
QY 240 IGIQDLAFRHYDERTIIOQNGVQPNYAANVIGYSNAGQVDYWIYRNSMDTNMGDNGY 299
DB 240 IGIQDLAFRHYDERTIIOQNGVQPNYAANVIGYSNAGQVDYWIYRNSMDTNMGDNGY 299
QY 241 IGIQDLAFRHYDERTIIOQNGVQPNYAANVIGYSNAGQVDYWIYRNSMDTNMGDNGY 300
DB 241 IGIQDLAFRHYDERTIIOQNGVQPNYAANVIGYSNAGQVDYWIYRNSMDTNMGDNGY 300
QY 300 GYFAANIDLMIMEEYPPYVIL 320
DB 301 GYFAANIDLMIMEEYPPYVIM 321

RESULT 14
US-07-945-288-2
Sequence 2, Application US/07945288
Patent No. 5433948
GENERAL INFORMATION:
APPLICANT: Thomas, Wayne R.
APPLICANT: Chua, Kaw-Yan
TITLE OF INVENTION: CLONING AND SEQUENCING OF ALLERGENS FROM
STREET: 60 STATE STREET, SUITE 510
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESSES:
ADDRESS: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON

STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/945,288
FILING DATE: 19920910
CLASSIFICATION: 514
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 580,655
FILING DATE: 11 SEPTEMBER 1990
ATTORNEY/AGENT INFORMATION:
NAME: MANDRAGOURAS, AMY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 245 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-945-288-2

Query Match 77.0%; Score 1294; DB 1; Length 245;
Best Local Similarity 98.4%; Pred. No. 3.5e-126;
Matches 241; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 76 KRFILMSAFAEHLKTOPFLNAETNACISNGNAPABIDLRQMTYTPPIRMGGCGSAMAF 135
DB 1 KRFILMSAFAEHLKTOPFLNAETNACISNGNAPABIDLRQMTYTPPIRMGGCGSAMAF 135
QY 136 SGVAATESAYLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIEYIQNGVQSSYRYV 195
DB 136 SGVAATESAYLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIEYIQNGVQSSYRYV 195
QY 61 SGVAATESAYLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIEYIQNGVQSSYRYV 120
DB 61 SGVAATESAYLAYRNOSIDLAEOLVDCASQHGCHGDTIPRGIEYIQNGVQSSYRYV 120
QY 196 AREQSCRRPNAQRFISNYCOIYPPNVKIRBALAQTHSAIAVIIGIKDLAFRHYDGT 255
DB 121 AREQSCRRPNAQRFISNYCOIYPPNVKIRBALAQTHSAIAVIIGIKDLAFRHYDGT 180
QY 256 IIGRDNGVQPNYAANVIGYSNAGQVDYWIYRNSMDTNMGDNGYGYFAANIDLMIMEEY 315
DB 181 IIGRDNGVQPNYAANVIGYSNAGQVDYWIYRNSMDTNMGDNGYGYFAANIDLMIMEEY 240
QY 316 YVYVIL 320
DB 241 YVYVIL 245

RESULT 15
US-08-462-831-2
Sequence 2, Application US/08462831
Patent No. 5552142
GENERAL INFORMATION:
APPLICANT:
TITLE OF INVENTION: T CELL EPITOPES OF THE MAJOR ALLERGENS FROM
STREET: 60 STATE STREET, SUITE 510
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESSES:
ADDRESS: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MA
COUNTRY: USA
ZIP: 02109

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: ASCII TEXT
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/462,831
 FILING DATE:
 CLASSIFICATION: 424
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US 07/945,288
 FILING DATE: 10 SEPTEMBER 1992
 APPLICATION NUMBER: US 580,655
 FILING DATE: 11 SEPTEMBER 1990
 APPLICATION NUMBER: US 458,642
 FILING DATE: 13 FEBRUARY 1990
 ATTORNEY/AGENT INFORMATION:
 NAME: MANDRAGOURAS, AMY E.
 REGISTRATION NUMBER: 36,207
 REFERENCE/DOCKET NUMBER: IPC-010CC (IMI-024)
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (617) 227-7400
 TELEFAX: (617) 227-5941
 INFORMATION FOR SEQ ID NO: 2:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 245 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-462-831-2

Query Match 77.0%; Score 1294; DB 1; Length 245;

Best Local Similarity 98.4%; Pred. No. 3.5e-126; Indels 0; Gaps 0;

Matches 241; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 76 KKRFLMSAEFEHLKTOFDLNAETNACISNGNAPAEIDLRQMTVTPIRMGGCGSAMAF 135
 DB 1 KKRFLMSAEFEHLKTOFDLNAETNACISNGNAPAEIDLRQMTVTPIRMGGCGSAMAF 60

QY 136 SGVAATESAYLARNOSLDLAEOELVDCASQHGCHGDTIPRGIEYIQHNGVVOESTYRYV 195
 DB 61 SGVAATESAYLARNOSLDLAEOELVDCASQHGCHGDTIPRGIEYIQHNGVVOESTYRYV 120

QY 196 AREOSCRBPNAORFGISNYCOIYPPNVNKLREALQTHSAIYIGIKDLDAFRHYDGR 255
 DB 121 AREOSCRBPNAORFGISNYCOIYPPNVNKLREALQTHSAIYIGIKDLDAFRHYDGR 180

QY 256 IIRDNQYQPNYAANIIGVSNAGVDYMIVRNSMDTNMGDNGYGYFAANIDLMIEEYP 315
 DB 181 IIRDNQYQPNYAANIIGVSNAGVDYMIVRNSMDTNMGDNGYGYFAANIDLMIEEYP 240

QY 316 YVVIL 320
 DB 241 YVVIL 245

Search completed: May 17, 2005, 15:06:33
 Job time : 49 secs

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OM protein - protein search, using sw model

Run on: May 17, 2005, 14:59:27 ; Search time 137 Seconds

(without alignments)
780.267 Million cell updates/sec

Title: US-09-554-860b-2

Perfect score: 1680

Sequence: 1 MKIVLAIALSLALMSAVYARP.....YFANIDLMIREPYVIL 320

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1432185 seqs, 334051727 residues

Total number of hits satisfying chosen parameters: 1432185

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:*

1: /cgn2_6/prodata/2/pubppa/US07_PUBCOMB.pep:*

2: /cgn2_6/prodata/2/pubppa/US06_NEW_PUB.pep:*

3: /cgn2_6/prodata/2/pubppa/US06_PUBCOMB.pep:*

4: /cgn2_6/prodata/2/pubppa/US07_NEW_PUB.pep:*

5: /cgn2_6/prodata/2/pubppa/US07_PUBCOMB.pep:*

6: /cgn2_6/prodata/2/pubppa/US08_NEW_PUB.pep:*

7: /cgn2_6/prodata/2/pubppa/US08_PUBCOMB.pep:*

8: /cgn2_6/prodata/2/pubppa/US09_PUBCOMB.pep:*

9: /cgn2_6/prodata/2/pubppa/US09_PUBCOMB.pep:*

10: /cgn2_6/prodata/2/pubppa/US09_PUBCOMB.pep:*

11: /cgn2_6/prodata/2/pubppa/US09_PUBCOMB.pep:*

12: /cgn2_6/prodata/2/pubppa/US09_PUBCOMB.pep:*

13: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

14: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

15: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

16: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

17: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

18: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

19: /cgn2_6/prodata/2/pubppa/US10_PUBCOMB.pep:*

20: /cgn2_6/prodata/2/pubppa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1670	99.4	320	9	US-09-877-160-2
2	1670	99.4	320	10	US-09-847-208-79
3	1670	99.4	320	14	US-10-001-245-179
4	1583	94.2	303	17	US-10-892-543-32
5	1579	94.0	302	17	US-10-892-543-8
6	1573	93.6	303	17	US-10-892-543-20
7	1573	93.6	303	17	US-10-892-543-35
8	1573	93.6	303	17	US-10-892-543-38
9	1569	93.4	302	17	US-10-892-543-11
10	1563	93.0	303	17	US-10-892-543-41
11	1562	93.0	299	17	US-10-892-543-23
12	1559	92.8	302	17	US-10-892-543-14
13	1558	92.7	298	17	US-10-892-543-2

14	1552	92.4	299	17	US-10-892-543-26	Sequence 26, Appl
15	1543	91.8	297	17	US-10-892-543-29	Sequence 29, Appl
16	1539	91.6	296	17	US-10-892-543-17	Sequence 17, Appl
17	1440.5	85.7	327	14	US-10-001-245-182	Sequence 182, App
18	1434.5	85.4	321	14	US-10-001-245-180	Sequence 180, App
19	1413.5	84.1	321	14	US-10-001-245-183	Sequence 183, Appl
20	1406.5	83.7	321	10	US-09-847-208-73	Sequence 73, Appl
21	1186	70.6	222	14	US-10-001-245-88	Sequence 88, Appl
22	1177	70.1	222	10	US-09-867-159A-2	Sequence 2, Appl
23	1151	68.5	218	17	US-10-892-543-5	Sequence 5, Appl
24	1149	68.4	222	14	US-10-001-245-26	Sequence 26, Appl
25	1148	68.3	222	14	US-10-001-245-18	Sequence 18, Appl
26	1148	68.3	222	14	US-10-001-245-20	Sequence 20, Appl
27	1148	68.3	222	14	US-10-001-245-24	Sequence 24, Appl
28	1146	68.1	222	14	US-10-001-245-22	Sequence 22, Appl
29	1144	68.1	222	14	US-10-001-245-14	Sequence 14, Appl
30	1144	68.1	222	14	US-10-001-245-16	Sequence 16, Appl
31	1130	67.3	222	14	US-10-001-245-30	Sequence 30, Appl
32	1129	67.2	222	14	US-10-001-245-28	Sequence 28, Appl
33	1120	66.7	222	14	US-10-001-245-34	Sequence 34, Appl
34	1119	66.6	222	14	US-10-001-245-32	Sequence 32, Appl
35	1117.5	66.5	246	14	US-10-001-245-181	Sequence 181, App
36	965.5	57.5	211	10	US-09-847-208-95	Sequence 95, Appl
37	965.5	57.5	211	14	US-10-001-245-184	Sequence 184, App
38	934.5	55.6	210	14	US-10-001-245-185	Sequence 185, App
39	374.5	22.3	458	16	US-10-437-963-155525	Sequence 155525, A
40	374.5	22.3	451	15	US-10-437-963-135411	Sequence 135411, A
41	364.5	21.7	357	16	US-10-437-963-15526	Sequence 15526, A
42	364.5	21.6	696	14	US-10-259-165-184	Sequence 184, App
43	362.5	21.5	470	16	US-10-437-963-155526	Sequence 155526, A
44	360.5	21.5	447	15	US-10-425-114-68471	Sequence 68471, A
45	358.5	21.3	361	15	US-10-425-114-37900	Sequence 37900, A

ALIGNMENTS

RESULT 1

US-09-877-160-2

1: Sequence 2, Application US/09877160

2: Publication No. US20020197268A1

GENERAL INFORMATION:

APPLICANT: Ching-Huang, Hsu

APPLICANT: Ching-Huang, Hsu

TITLE OF INVENTION: ALLERGEN-CONTAINING MILK FOR ALLERGY

TITLE OF INVENTION: TREATMENT

FILE REFERENCE: 12774-003001

CURRENT APPLICATION NUMBER: US/09/877,160

CURRENT FILING DATE: 2001-06-08

NUMBER OF SEQ ID NOS: 10

SOFTWARE: PatSeq for Windows Version 4.0

SEQ ID NO 2

LENGTH: 320

TYPE: PRT

ORGANISM: Dermatophagoides pteromyssinus

US-09-877-160-2

Query Match 99.4%; Score 1670; DB 9; Length 320;

Best Local Similarity 99.4%; Pred. No. 1.4e-154; Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY	1	MKIVLAIALSLALMSAVYARPSSIKTEEEKKAPFNKSYATPEDEARKNPLSVKVOVN	60
DB	1	MKIVLAIALSLALMSAVYARPSSIKTEEEKKAPFNKSYATPEDEARKNPLSVKVOVN	60
QY	61	GGAINHLSLSDLEFKNRFLMSAEAFELKTFDNLAEFTNACISNGNAPAEIDLQRMRTV	120
DB	61	GGAINHLSLSDLEFKNRFLMSAEAFELKTFDNLAEFTNACISNGNAPAEIDLQRMRTV	120
QY	121	TPIRMGGGGSAMAFSGVAATESAVIAYNOSIDLAEGLVDCASQHGCHGTIPGIEY	180
DB	121	TPIRMGGGGSAMAFSGVAATESAVIAYNOSIDLAEGLVDCASQHGCHGTIPGIEY	180

QY 181 IOHNGVQESYRYVAREQSCRRPNAQRFGISNYCQIYPNNKIREALAQTHSAIAVII 240
DB 181 IOHNGVQESYRYVAREQSCRRPNAQRFGISNYCQIYPNNKIREALAQTHSAIAVII 240
QY 241 GIKDLAFRHYDGRITIIQDNGYQPNYAANVIGYSNAGVDYWIYRNSMDTNMGDNGYG 300
DB 241 GIKDLAFRHYDGRITIIQDNGYQPNYAANVIGYSNAGVDYWIYRNSMDTNMGDNGYG 300
QY 301 YFAANIDLMIMEEYPYVIL 320
DB 301 YFAANIDLMIMEEYPYVIL 320

RESULT 2

US-09-847-208-79
Sequence 79, Application US/09847208
Publication No. US20030082190A1
GENERAL INFORMATION:
APPLICANT: Saxon, Andrew
APPLICANT: Zhu, Daocheng
APPLICANT: Zhu, Daocheng
TITLE OF INVENTION: FUSION MOLECULES AND TREATMENT OF
TITLE OF INVENTION: IGE-MEDIATED ALLERGIC DISEASES
FILE REFERENCE: US67,002A
CURRENT APPLICATION NUMBER: US/09/847,208
NUMBER OF SEQ ID NOS: 177
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 79
LENGTH: 320
TYPE: PRT
ORGANISM: Dermatophagoides pteronyssinus (House-dust mite)
US-09-847-208-79

Query Match 99.4%; Score 1670; DB 10; Length 320;
Best Local Similarity 99.4%; Pred. No. 1.4e-154;
Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKIVLAISLALSAVYARPPSSIKTFEEYKAFNKSATFEDEBARKNFLESVKYQSN 60
DB 1 MKIVLAISLALSAVYARPPSSIKTFEEYKAFNKSATFEDEBARKNFLESVKYQSN 60
QY 61 GGAINHLSDSLDEFKRNFLMSAEAEHLKTOPDLNAETNACISNGNAPAEIDLRQMTV 120
DB 61 GGAINHLSDSLDEFKRNFLMSAEAEHLKTOPDLNAETNACISNGNAPAEIDLRQMTV 120
QY 121 TPIRMGGCGSAMFSGVATSAIYARNOSLDIAEOELVDCASOHGCHGDTIPRGIEY 180
DB 121 TPIRMGGCGSAMFSGVATSAIYARNOSLDIAEOELVDCASOHGCHGDTIPRGIEY 180
QY 181 IOHNGVQESYRYVAREQSCRRPNAQRFGISNYCQIYPNNKIREALAQTHSAIAVII 240
DB 181 IOHNGVQESYRYVAREQSCRRPNAQRFGISNYCQIYPNNKIREALAQTHSAIAVII 240
QY 241 GIKDLAFRHYDGRITIIQDNGYQPNYAANVIGYSNAGVDYWIYRNSMDTNMGDNGYG 300
DB 241 GIKDLAFRHYDGRITIIQDNGYQPNYAANVIGYSNAGVDYWIYRNSMDTNMGDNGYG 300
QY 301 YFAANIDLMIMEEYPYVIL 320
DB 301 YFAANIDLMIMEEYPYVIL 320

RESULT 3

US-10-001-245-179
Sequence 179, Application US/10001245
Publication No. US20030175312A1
GENERAL INFORMATION:
APPLICANT: HOLM, Jens
APPLICANT: IJSEN, Henrik
APPLICANT: LARSEN, Jorgen N.
APPLICANT: SPANGFORT, Michael D.
TITLE OF INVENTION: No. US20030175312A1 mutant allergens

FILE REFERENCE: 4305/1H942-US2
CURRENT APPLICATION NUMBER: US/10/001,245
CURRENT FILING DATE: 2001-11-15
PRIOR APPLICATION NUMBER: US 60/298,170
PRIOR FILING DATE: 2001-06-14
PRIOR APPLICATION NUMBER: US 60/249,361
PRIOR FILING DATE: 2000-11-16
NUMBER OF SEQ ID NOS: 217
SOFTWARE: PatentIn version 3.1
SEQ ID NO 179
LENGTH: 320
TYPE: PRT
ORGANISM: Dermatophagoides pteronyssinus
US-10-001-245-179

Query Match 99.4%; Score 1670; DB 14; Length 320;
Best Local Similarity 99.4%; Pred. No. 1.4e-154;
Matches 318; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MKIVLAISLALSAVYARPPSSIKTFEEYKAFNKSATFEDEBARKNFLESVKYQSN 60
DB 1 MKIVLAISLALSAVYARPPSSIKTFEEYKAFNKSATFEDEBARKNFLESVKYQSN 60
QY 61 GGAINHLSDSLDEFKRNFLMSAEAEHLKTOPDLNAETNACISNGNAPAEIDLRQMTV 120
DB 61 GGAINHLSDSLDEFKRNFLMSAEAEHLKTOPDLNAETNACISNGNAPAEIDLRQMTV 120
QY 121 TPIRMGGCGSAMFSGVATSAIYARNOSLDIAEOELVDCASOHGCHGDTIPRGIEY 180
DB 121 TPIRMGGCGSAMFSGVATSAIYARNOSLDIAEOELVDCASOHGCHGDTIPRGIEY 180
QY 181 IOHNGVQESYRYVAREQSCRRPNAQRFGISNYCQIYPNNKIREALAQTHSAIAVII 240
DB 181 IOHNGVQESYRYVAREQSCRRPNAQRFGISNYCQIYPNNKIREALAQTHSAIAVII 240
QY 241 GIKDLAFRHYDGRITIIQDNGYQPNYAANVIGYSNAGVDYWIYRNSMDTNMGDNGYG 300
DB 241 GIKDLAFRHYDGRITIIQDNGYQPNYAANVIGYSNAGVDYWIYRNSMDTNMGDNGYG 300
QY 301 YFAANIDLMIMEEYPYVIL 320
DB 301 YFAANIDLMIMEEYPYVIL 320

RESULT 4

US-10-892-543-32
Sequence 32, Application US/10892543
Publication No. US2005053615A1
GENERAL INFORMATION:
APPLICANT: Best, Elaine A.
APPLICANT: McDermott, Martin J.
TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
TITLE OF INVENTION: DUST MITE ALLERGY
FILE REFERENCE: At-10
CURRENT APPLICATION NUMBER: US/10/892,543
CURRENT FILING DATE: 2004-07-15
PRIOR APPLICATION NUMBER: 60/487,812
PRIOR FILING DATE: 2003-07-16
NUMBER OF SEQ ID NOS: 42
SOFTWARE: PatentIn version 3.2
SEQ ID NO 32
LENGTH: 303
TYPE: PRT
ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-32

Query Match 94.2%; Score 1583; DB 17; Length 303;
Best Local Similarity 99.0%; Pred. No. 4.1e-146;
Matches 299; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 19 RPSSIKTFEEYKAFNKSATFEDEBARKNFLESVKYQSNGGAINHLSDSLDEFKRN 78
DB 2 RPSSIKTFEEYKAFNKSATFEDEBARKNFLESVKYQSNGGAINHLSDSLDEFKRN 61


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QY 79 FLMSAEAFHKLTPDLNATNACSIINGNAPAEIDLRQRTVTPIRMGGCCSMAAFSGV 138
DB 62 FLMSAEAFHKLTPDLNATNACSIINGNAPAEIDLRQRTVTPIRMGGCCSMAAFSGV 121
QY 139 AATESAYILARNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVVOESYRYVAE 198
DB 122 AATESAYILARNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVVOESYRYVAE 181
QY 199 QSCRPNMORFGISNCCQIYPPVNNKIRALAQTHSAIIVIGIKDLDAFRHYDGRITIQ 258
DB 182 QSCRPNMORFGISNCCQIYPPVNNKIRALAQTHSAIIVIGIKDLDAFRHYDGRITIQ 241
QY 259 RONGYQPNYAAVNIIVGYSNAGVDYVIIVNSWDTNMGDNGYGFPAANIDLMIMEEYPYV 318
DB 242 RONGYQPNYAAVNIIVGYSNAGVDYVIIVNSWDTNMGDNGYGFPAANIDLMIMEEYPYV 301
QY 319 IL 320
DB 302 IL 303

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RESULT 5
US-10-892-543-8
; Sequence 8, Application US/10892543
; Publication No. US20050053615A1
; GENERAL INFORMATION:
; APPLICANT: Beec, Elaine A.
; APPLICANT: McDermott, Martin J.
; TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
; FILE OF INVENTION: DUST MITE ALLERGY
; FILE REFERENCE: AL-10
; CURRENT APPLICATION NUMBER: US/10/892,543
; PRIOR FILING DATE: 2004-07-15
; PRIOR APPLICATION NUMBER: 60/487,812
; PRIOR FILING DATE: 2003-07-16
; NUMBER OF SEQ ID NOS: 42
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO: 8
; LENGTH: 302
; TYPE: PRT
; ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-8

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Query Match 94.0%; Score 1579; DB 17; Length 302;
Best Local Similarity 98.7%; Pred. No. 1e-145;
Matches 298; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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QY 19 RPSIKTFEEYKKAFFKSYATFEDEEARKNFLESYKVYQSNQGAINHLSIDLSEFKNR 78
DB 1 RPSIKTFEEYKKAFFKSYATFEDEEARKNFLESYKVYQSNQGAINHLSIDLSEFKNR 60
QY 79 FLMSAEAFHKLTPDLNATNACSIINGNAPAEIDLRQRTVTPIRMGGCCSMAAFSGV 138
DB 61 FLMSAEAFHKLTPDLNATNACSIINGNAPAEIDLRQRTVTPIRMGGCCSMAAFSGV 120
QY 139 AATESAYILARNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVVOESYRYVAE 198
DB 122 AATESAYILARNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVVOESYRYVAE 180
QY 199 QSCRPNMORFGISNCCQIYPPVNNKIRALAQTHSAIIVIGIKDLDAFRHYDGRITIQ 258
DB 181 QSCRPNMORFGISNCCQIYPPVNNKIRALAQTHSAIIVIGIKDLDAFRHYDGRITIQ 240
QY 259 RONGYQPNYAAVNIIVGYSNAGVDYVIIVNSWDTNMGDNGYGFPAANIDLMIMEEYPYV 318
DB 241 RONGYQPNYAAVNIIVGYSNAGVDYVIIVNSWDTNMGDNGYGFPAANIDLMIMEEYPYV 300
QY 319 IL 320
DB 301 IL 302

```

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RESULT 6
US-10-892-543-20
; Sequence 20, Application US/10892543
; Publication No. US20050053615A1
; GENERAL INFORMATION:
; APPLICANT: Beec, Elaine A.
; APPLICANT: McDermott, Martin J.
; TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
; FILE OF INVENTION: DUST MITE ALLERGY
; FILE REFERENCE: AL-10
; CURRENT APPLICATION NUMBER: US/10/892,543
; PRIOR FILING DATE: 2004-07-15
; PRIOR APPLICATION NUMBER: 60/487,812
; PRIOR FILING DATE: 2003-07-16
; NUMBER OF SEQ ID NOS: 42
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO: 20
; LENGTH: 303
; TYPE: PRT
; ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-20

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Query Match 93.6%; Score 1573; DB 17; Length 303;
Best Local Similarity 98.7%; Pred. No. 3.9e-145;
Matches 298; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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QY 19 RPSIKTFEEYKKAFFKSYATFEDEEARKNFLESYKVYQSNQGAINHLSIDLSEFKNR 78
DB 2 RPSIKTFEEYKKAFFKSYATFEDEEARKNFLESYKVYQSNQGAINHLSIDLSEFKNR 61
QY 79 FLMSAEAFHKLTPDLNATNACSIINGNAPAEIDLRQRTVTPIRMGGCCSMAAFSGV 138
DB 62 FLMSAEAFHKLTPDLNATNACSIINGNAPAEIDLRQRTVTPIRMGGCCSMAAFSGV 121
QY 139 AATESAYILARNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVVOESYRYVAE 198
DB 122 AATESAYILARNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVVOESYRYVAE 181
QY 199 QSCRPNMORFGISNCCQIYPPVNNKIRALAQTHSAIIVIGIKDLDAFRHYDGRITIQ 258
DB 182 QSCRPNMORFGISNCCQIYPPVNNKIRALAQTHSAIIVIGIKDLDAFRHYDGRITIQ 241
QY 259 RONGYQPNYAAVNIIVGYSNAGVDYVIIVNSWDTNMGDNGYGFPAANIDLMIMEEYPYV 318
DB 242 RONGYQPNYAAVNIIVGYSNAGVDYVIIVNSWDTNMGDNGYGFPAANIDLMIMEEYPYV 301
QY 319 IL 320
DB 302 IL 303

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RESULT 7
US-10-892-543-35
; Sequence 35, Application US/10892543
; Publication No. US20050053615A1
; GENERAL INFORMATION:
; APPLICANT: Beec, Elaine A.
; APPLICANT: McDermott, Martin J.
; TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
; FILE OF INVENTION: DUST MITE ALLERGY
; FILE REFERENCE: AL-10
; CURRENT APPLICATION NUMBER: US/10/892,543
; PRIOR FILING DATE: 2004-07-15
; PRIOR APPLICATION NUMBER: 60/487,812
; PRIOR FILING DATE: 2003-07-16
; NUMBER OF SEQ ID NOS: 42
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO: 35
; LENGTH: 303
; TYPE: PRT
; ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-35

```

Query Match 93.6%; Score 1573; DB 17; Length 303;
 Best Local Similarity 98.7%; Pred. No. 3.9e-145;
 Matches 298; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

19 RPSIKTFEEYKKAFFKNSYATFEDEBARKNFLSEYKYVQSGAINHLSLDEFEKNR 78
 2 RPSIKTFEEYKKAFFKNSYATFEDEBARKNFLSEYKYVQSGAINHLSLDEFEKNR 61
 79 FLMSAEAFELKTQFDLNAETNACSGINGNAPAEIDLRQMTVTPPIRMGGGSGMAFSGV 138
 62 FLMSAEAFELKTQFDLNAETNACSGINGNAPAEIDLRQMTVTPPIRMGGGSGMAFSGV 121
 139 AATESAYLARNSQSLDAEOLVDCASQHGCHDTPRGIEYIQHNGVQESYRYVARE 198
 122 AATESAYLARNSQSLDAEOLVDCASQHGCHDTPRGIEYIQHNGVQESYRYVARE 181
 199 QSCRPNARQFGISNYCOIYPPNVNKKIREALQTHSAIAVITIGIKDLAFRHYDGRITIQ 258
 182 QSCRPNARQFGISNYCOIYPPNVNKKIREALQTHSAIAVITIGIKDLAFRHYDGRITIQ 241
 259 RDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTNWGDNGYGFPAANIDLMITEEYPYV 318
 242 RDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTNWGDNGYGFPAANIDLMITEEYPYV 301
 319 IL 320
 302 IL 303

RESULT 8
 US-10-892-543-38
 ; Sequence 38, Application US/10892543
 ; Publication No. US20050053615A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Best, Elaine A.
 ; TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
 ; TITLE OF INVENTION: DUST MITE ALLERGY
 ; FILE REFERENCE: AL-10
 ; CURRENT APPLICATION NUMBER: US/10/892,543
 ; CURRENT FILING DATE: 2004-07-15
 ; PRIOR APPLICATION NUMBER: 60/487,812
 ; PRIOR FILING DATE: 2003-07-16
 ; NUMBER OF SEQ ID NOS: 42
 ; SOFTWARE: PatentIn version 3.2
 ; SEQ ID NO 38
 ; LENGTH: 303
 ; TYPE: PRF
 ; ORGANISM: Dermatophagoides pteronyssinus
 ; US-10-892-543-38

Query Match 93.6%; Score 1573; DB 17; Length 303;
 Best Local Similarity 98.7%; Pred. No. 3.9e-145;
 Matches 298; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
 19 RPSIKTFEEYKKAFFKNSYATFEDEBARKNFLSEYKYVQSGAINHLSLDEFEKNR 78
 2 RPSIKTFEEYKKAFFKNSYATFEDEBARKNFLSEYKYVQSGAINHLSLDEFEKNR 61
 79 FLMSAEAFELKTQFDLNAETNACSGINGNAPAEIDLRQMTVTPPIRMGGGSGMAFSGV 138
 62 FLMSAEAFELKTQFDLNAETNACSGINGNAPAEIDLRQMTVTPPIRMGGGSGMAFSGV 121
 139 AATESAYLARNSQSLDAEOLVDCASQHGCHDTPRGIEYIQHNGVQESYRYVARE 198
 122 AATESAYLARNSQSLDAEOLVDCASQHGCHDTPRGIEYIQHNGVQESYRYVARE 181
 199 QSCRPNARQFGISNYCOIYPPNVNKKIREALQTHSAIAVITIGIKDLAFRHYDGRITIQ 258
 182 QSCRPNARQFGISNYCOIYPPNVNKKIREALQTHSAIAVITIGIKDLAFRHYDGRITIQ 241
 259 RDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTNWGDNGYGFPAANIDLMITEEYPYV 318
 302 IL 303

DB 242 RDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTNWGDNGYGFPAANIDLMITEEYPYV 301
 QY 319 IL 320
 DB 302 IL 303

RESULT 9
 US-10-892-543-11
 ; Sequence 11, Application US/10892543
 ; Publication No. US20050053615A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Best, Elaine A.
 ; TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
 ; TITLE OF INVENTION: DUST MITE ALLERGY
 ; FILE REFERENCE: AL-10
 ; CURRENT APPLICATION NUMBER: US/10/892,543
 ; CURRENT FILING DATE: 2004-07-15
 ; PRIOR APPLICATION NUMBER: 60/487,812
 ; PRIOR FILING DATE: 2003-07-16
 ; NUMBER OF SEQ ID NOS: 42
 ; SOFTWARE: PatentIn version 3.2
 ; SEQ ID NO 11
 ; LENGTH: 302
 ; TYPE: PRF
 ; ORGANISM: Dermatophagoides pteronyssinus
 ; US-10-892-543-11

Query Match 93.4%; Score 1569; DB 17; Length 302;
 Best Local Similarity 98.3%; Pred. No. 9.6e-145;
 Matches 297; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

19 RPSIKTFEEYKKAFFKNSYATFEDEBARKNFLSEYKYVQSGAINHLSLDEFEKNR 78
 1 RPSIKTFEEYKKAFFKNSYATFEDEBARKNFLSEYKYVQSGAINHLSLDEFEKNR 60
 79 FLMSAEAFELKTQFDLNAETNACSGINGNAPAEIDLRQMTVTPPIRMGGGSGMAFSGV 138
 61 FLMSAEAFELKTQFDLNAETNACSGINGNAPAEIDLRQMTVTPPIRMGGGSGMAFSGV 120
 139 AATESAYLARNSQSLDAEOLVDCASQHGCHDTPRGIEYIQHNGVQESYRYVARE 198
 121 AATESAYLARNSQSLDAEOLVDCASQHGCHDTPRGIEYIQHNGVQESYRYVARE 180
 199 QSCRPNARQFGISNYCOIYPPNVNKKIREALQTHSAIAVITIGIKDLAFRHYDGRITIQ 258
 181 QSCRPNARQFGISNYCOIYPPNVNKKIREALQTHSAIAVITIGIKDLAFRHYDGRITIQ 240
 259 RDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTNWGDNGYGFPAANIDLMITEEYPYV 318
 241 RDNGYQPNYAAVNIYVGSNAQGVYWIYRNSWDTNWGDNGYGFPAANIDLMITEEYPYV 300
 319 IL 320
 301 IL 302

RESULT 10
 US-10-892-543-41
 ; Sequence 41, Application US/10892543
 ; Publication No. US20050053615A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Best, Elaine A.
 ; TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
 ; TITLE OF INVENTION: DUST MITE ALLERGY
 ; FILE REFERENCE: AL-10
 ; CURRENT APPLICATION NUMBER: US/10/892,543
 ; CURRENT FILING DATE: 2004-07-15
 ; PRIOR APPLICATION NUMBER: 60/487,812
 ; PRIOR FILING DATE: 2003-07-16
 ; NUMBER OF SEQ ID NOS: 42

SOFTWARE: Patentin version 3.2
SEQ ID NO 41
LENGTH: 303
TYPE: PRT
ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-41

Query Match 93.0%; Score 1563; DB 17; Length 303;
Best Local Similarity 98.3%; Pred. No. 3.7e-144;
Matches 297; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 19 RSSIKTFEEYKKAFFKSYATFEDEBAARKNFLESVKYVQNSGAINHLSLDSLDEFKOR 78
DB 2 RSSIKTFEEYKKAFFKSYATFEDEBAARKNFLESVKYVQNSGAINHLSLDSLDEFKOR 61
QY 79 FLMSAFAFHLKTQPLNLAETNACSSINGNAPAEIDLRKRTVTPRIMOGSCSAAAFSGV 138
DB 62 FLMSAFAFHLKTQPLNLAETNACSSINGNAPAEIDLRKRTVTPRIMOGSCSAAAFSGV 121
QY 139 AATESAYLAVRNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVQESYRYRVARE 198
DB 122 AATESAYLAVRNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVQESYRYRVARE 181
QY 199 QSCRPNARFGISNYCQIYPPNVNKKIREALAQTHSAIAVIGIKDLDAFRHYDGTIIQ 258
DB 182 QSCRPNARFGISNYCQIYPPNVNKKIREALAQTHSAIAVIGIKDLDAFRHYDGTIIQ 241
QY 259 RONGYQPNYAAVNIYGSAQGVYWIYVNSWDTNMGDNGYGFPAANIDLMIMEEPPYV 318
DB 242 RONGYQPNYAAVNIYGSAQGVYWIYVNSWDTNMGDNGYGFPAANIDLMIMEEPPYV 301
QY 319 IL 320
DB 302 IL 303

RESULT 11
US-10-892-543-23
Sequence 23, Application US/10892543
Publication No. US20050053615A1
GENERAL INFORMATION:
APPLICANT: Best, Elaine A.
APPLICANT: McDermott, Martin J.
TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
FILE REFERENCE: AL-10
CURRENT APPLICATION NUMBER: US/10/892,543
CURRENT FILING DATE: 2004-07-15
PRIOR APPLICATION NUMBER: 60/487,812
PRIOR FILING DATE: 2003-07-16
NUMBER OF SEQ ID NOS: 42
SOFTWARE: Patentin version 3.2
SEQ ID NO 23
LENGTH: 299
TYPE: PRT
ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-23

Query Match 93.0%; Score 1562; DB 17; Length 299;
Best Local Similarity 98.3%; Pred. No. 4.6e-144;
Matches 297; Conservative 0; Mismatches 1; Indels 4; Gaps 1;

QY 19 RSSIKTFEEYKKAFFKSYATFEDEBAARKNFLESVKYVQNSGAINHLSLDSLDEFKOR 78
DB 2 RSSIKTFEEYKKAFFKSYATFEDEBAARKNFLESVKYVQNSGAINHLSLDSLDEFKOR 61
QY 79 FLMSAFAFHLKTQPLNLAETNACSSINGNAPAEIDLRKRTVTPRIMOGSCSAAAFSGV 138
DB 62 FLMSAFAFHLKTQPLNLAETNACSSINGNAPAEIDLRKRTVTPRIMOGSCSAAAFSGV 117
QY 139 AATESAYLAVRNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVQESYRYRVARE 198
DB 118 AATESAYLAVRNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVQESYRYRVARE 177

QY 199 QSCRPNARFGISNYCQIYPPNVNKKIREALAQTHSAIAVIGIKDLDAFRHYDGTIIQ 258
DB 178 QSCRPNARFGISNYCQIYPPNVNKKIREALAQTHSAIAVIGIKDLDAFRHYDGTIIQ 237
QY 259 RONGYQPNYAAVNIYGSAQGVYWIYVNSWDTNMGDNGYGFPAANIDLMIMEEPPYV 318
DB 238 RONGYQPNYAAVNIYGSAQGVYWIYVNSWDTNMGDNGYGFPAANIDLMIMEEPPYV 297
QY 319 IL 320
DB 298 IL 299

RESULT 12
US-10-892-543-14
Sequence 14, Application US/10892543
Publication No. US20050053615A1
GENERAL INFORMATION:
APPLICANT: Best, Elaine A.
APPLICANT: McDermott, Martin J.
TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
FILE REFERENCE: AL-10
CURRENT APPLICATION NUMBER: US/10/892,543
CURRENT FILING DATE: 2004-07-15
PRIOR APPLICATION NUMBER: 60/487,812
PRIOR FILING DATE: 2003-07-16
NUMBER OF SEQ ID NOS: 42
SOFTWARE: Patentin version 3.2
SEQ ID NO 14
LENGTH: 302
TYPE: PRT
ORGANISM: Dermatophagoides pteronyssinus
US-10-892-543-14

Query Match 92.8%; Score 1559; DB 17; Length 302;
Best Local Similarity 98.0%; Pred. No. 9.1e-144;
Matches 296; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

QY 19 RSSIKTFEEYKKAFFKSYATFEDEBAARKNFLESVKYVQNSGAINHLSLDSLDEFKOR 78
DB 1 RSSIKTFEEYKKAFFKSYATFEDEBAARKNFLESVKYVQNSGAINHLSLDSLDEFKOR 60
QY 79 FLMSAFAFHLKTQPLNLAETNACSSINGNAPAEIDLRKRTVTPRIMOGSCSAAAFSGV 138
DB 61 FLMSAFAFHLKTQPLNLAETNACSSINGNAPAEIDLRKRTVTPRIMOGSCSAAAFSGV 120
QY 139 AATESAYLAVRNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVQESYRYRVARE 198
DB 121 AATESAYLAVRNQSLDLAEQELVDCASOHGCHGDTIPRGIEYIQHNGVQESYRYRVARE 180
QY 199 QSCRPNARFGISNYCQIYPPNVNKKIREALAQTHSAIAVIGIKDLDAFRHYDGTIIQ 258
DB 181 QSCRPNARFGISNYCQIYPPNVNKKIREALAQTHSAIAVIGIKDLDAFRHYDGTIIQ 240
QY 259 RONGYQPNYAAVNIYGSAQGVYWIYVNSWDTNMGDNGYGFPAANIDLMIMEEPPYV 318
DB 241 RONGYQPNYAAVNIYGSAQGVYWIYVNSWDTNMGDNGYGFPAANIDLMIMEEPPYV 300
QY 319 IL 320
DB 301 IL 302

RESULT 13
US-10-892-543-2
Sequence 2, Application US/10892543
Publication No. US20050053615A1
GENERAL INFORMATION:
APPLICANT: Best, Elaine A.
APPLICANT: McDermott, Martin J.
TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE

TITLE OF INVENTION: DUST MITE ALLERGY
 FILE REFERENCE: AL-10
 CURRENT APPLICATION NUMBER: US/10/892,543
 CURRENT FILING DATE: 2004-07-15
 PRIOR APPLICATION NUMBER: 60/487,812
 PRIOR FILING DATE: 2003-07-16
 NUMBER OF SEQ ID NOS: 42
 SOFTWARE: PatentIn version 3.2
 SEQ ID NO 2
 LENGTH: 298
 TYPE: PR1
 ORGANISM: Dermatophagoides pteronyssinus
 US-10-892-543-2

Query Match 92.7%; Score 1558; DB 17; Length 298;
 Best Local Similarity 98.0%; Pred. No. 1,1e-143;
 Matches 296; Conservative 0; Mismatches 2; Indels 4; Gaps 1;

QY 19 RPSISITFEERYKKA FNKSYATFEDDEBARKNFLSEYKYVQSNNGAINHLSLDEFKNR 78
 DB 1 RPSISITFEERYKKA FNKSYATFEDDEBARKNFLSEYKYVQSNNGAINHLSLDEFKNR 60
 QY 79 FLMSAEAFELHKTQFDLNAETNACISINGNAPAEIDLROKRTVTPIRMGGCGSAMAFSGV 138
 DB 61 FLMSAEAFELHKTQFDLNAETNACISINGNAPAEIDLROKRTVTPIRMGGCGSAMAFSGV 116
 QY 139 AATESAYLAYRNQSLDLAEQELVDCASQCHGCHDTIPRGIEYIQHNGVQESYRYVARE 198
 DB 117 AATESAYLAYRNQSLDLAEQELVDCASQCHGCHDTIPRGIEYIQHNGVQESYRYVARE 176
 QY 199 QSCRPRNAQRFGISNYCOIYPPNVNKKIRBALAQTHSAIAVIGIKDLDAFRHGDRTIIQ 258
 DB 177 QSCRPRNAQRFGISNYCOIYPPNVNKKIRBALAQTHSAIAVIGIKDLDAFRHGDRTIIQ 236
 QY 259 RDNGYQPNYAANVIVGYSNAQGVYWIVRNSWDTNMGDNGYGFPAANIDLMITEEYPYV 318
 DB 237 RDNGYQPNYAANVIVGYSNAQGVYWIVRNSWDTNMGDNGYGFPAANIDLMITEEYPYV 296
 QY 319 IL 320
 DB 297 IL 298

RESULT 14
 US-10-892-543-26
 Sequence 26, Application US/10892543
 Publication No. US20050053615A1
 GENERAL INFORMATION:
 APPLICANT: Best, Elaine A.
 APPLICANT: McDermott, Martin J.
 TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
 TITLE OF INVENTION: DUST MITE ALLERGY
 FILE REFERENCE: AL-10
 CURRENT APPLICATION NUMBER: US/10/892,543
 CURRENT FILING DATE: 2004-07-15
 PRIOR APPLICATION NUMBER: 60/487,812
 PRIOR FILING DATE: 2003-07-16
 NUMBER OF SEQ ID NOS: 42
 SOFTWARE: PatentIn version 3.2
 SEQ ID NO 26
 LENGTH: 299
 TYPE: PR1
 ORGANISM: Dermatophagoides pteronyssinus
 US-10-892-543-26

Query Match 92.4%; Score 1552; DB 17; Length 299;
 Best Local Similarity 98.0%; Pred. No. 4.3e-143;
 Matches 296; Conservative 0; Mismatches 2; Indels 4; Gaps 1;

QY 19 RPSISITFEERYKKA FNKSYATFEDDEBARKNFLSEYKYVQSNNGAINHLSLDEFKNR 78
 DB 2 RPSISITFEERYKKA FNKSYATFEDDEBARKNFLSEYKYVQSNNGAINHLSLDEFKNR 61

QY 79 FLMSAEAFELHKTQFDLNAETNACISINGNAPAEIDLROKRTVTPIRMGGCGSAMAFSGV 138
 DB 62 FLMSAEAFELHKTQFDLNAETNACISINGNAPAEIDLROKRTVTPIRMGGCGSAMAFSGV 117
 QY 139 AATESAYLAYRNQSLDLAEQELVDCASQCHGCHDTIPRGIEYIQHNGVQESYRYVARE 198
 DB 118 AATESAYLAYRNQSLDLAEQELVDCASQCHGCHDTIPRGIEYIQHNGVQESYRYVARE 177
 QY 199 QSCRPRNAQRFGISNYCOIYPPNVNKKIRBALAQTHSAIAVIGIKDLDAFRHGDRTIIQ 258
 DB 178 QSCRPRNAQRFGISNYCOIYPPNVNKKIRBALAQTHSAIAVIGIKDLDAFRHGDRTIIQ 237
 QY 259 RDNGYQPNYAANVIVGYSNAQGVYWIVRNSWDTNMGDNGYGFPAANIDLMITEEYPYV 318
 DB 238 RDNGYQPNYAANVIVGYSNAQGVYWIVRNSWDTNMGDNGYGFPAANIDLMITEEYPYV 297
 QY 319 IL 320
 DB 298 IL 299

RESULT 15
 US-10-892-543-29
 Sequence 29, Application US/10892543
 Publication No. US20050053615A1
 GENERAL INFORMATION:
 APPLICANT: Best, Elaine A.
 APPLICANT: McDermott, Martin J.
 TITLE OF INVENTION: VARIANTS OF MITE GROUP 1 ALLERGENS FOR THE TREATMENT OF HOUSE
 TITLE OF INVENTION: DUST MITE ALLERGY
 FILE REFERENCE: AL-10
 CURRENT APPLICATION NUMBER: US/10/892,543
 CURRENT FILING DATE: 2004-07-15
 PRIOR APPLICATION NUMBER: 60/487,812
 PRIOR FILING DATE: 2003-07-16
 NUMBER OF SEQ ID NOS: 42
 SOFTWARE: PatentIn version 3.2
 SEQ ID NO 29
 LENGTH: 297
 TYPE: PR1
 ORGANISM: Dermatophagoides pteronyssinus
 US-10-892-543-29

Query Match 91.8%; Score 1543; DB 17; Length 297;
 Best Local Similarity 97.4%; Pred. No. 3.3e-142;
 Matches 294; Conservative 0; Mismatches 2; Indels 6; Gaps 1;

QY 19 RPSISITFEERYKKA FNKSYATFEDDEBARKNFLSEYKYVQSNNGAINHLSLDEFKNR 78
 DB 2 RPSISITFEERYKKA FNKSYATFEDDEBARKNFLSEYKYVQSNNGAINHLSLDEFKNR 61
 QY 79 FLMSAEAFELHKTQFDLNAETNACISINGNAPAEIDLROKRTVTPIRMGGCGSAMAFSGV 138
 DB 62 FLMSAEAFELHKTQFDLNAETNACISINGNAPAEIDLROKRTVTPIRMGGCGSAMAFSGV 121
 QY 139 AATESAYLAYRNQSLDLAEQELVDCASQCHGCHDTIPRGIEYIQHNGVQESYRYVARE 198
 DB 122 AATESAYLAYRNQSLDLAEQELVDCASQCHGCHDTIPRGIEYIQHNGVQESYRYVARE 181
 QY 199 QSCRPRNAQRFGISNYCOIYPPNVNKKIRBALAQTHSAIAVIGIKDLDAFRHGDRTIIQ 258
 DB 182 QSCRPRNAQRFGISNYCOIYPPNVNKKIRBALAQTHSAIAVIGIKDLDAFRHGDRTIIQ 235
 QY 259 RDNGYQPNYAANVIVGYSNAQGVYWIVRNSWDTNMGDNGYGFPAANIDLMITEEYPYV 318
 DB 236 RDNGYQPNYAANVIVGYSNAQGVYWIVRNSWDTNMGDNGYGFPAANIDLMITEEYPYV 295
 QY 319 IL 320
 DB 296 IL 297

Search completed: May 17, 2005, 15:09:01

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